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8-518

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Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: S. Kumar Examiner #: 69594 Date: 8/10/06

Art Unit: 1621 Phone Number: 2-0640 Serial Number: 10/526,327

Location (Bldg/Room#): REM (Mailbox #: 5C18 Results Format Preferred (circle): PAPER DISK

5C03

****

MEY

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: Method for the organometallic production of organic intermediates

Inventors (please provide full names): Andreas Meudt et al.

Earliest Priority Date: 8/31/02

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only* *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

I $R-Hal \xrightarrow{Li} R-Li$

$R-Li + R_1-X_1-H \longrightarrow R_1-X_1-Li$

II $R-Li + \begin{matrix} R_1 \\ R_2 \end{matrix}\!>\!X_2-H \longrightarrow \begin{matrix} R' \\ R_2 \end{matrix}\!>\!X_2-Li$

$R_1-X_1-Li \xrightarrow{\text{Electrophile}} R_1-X_1-E$

III $\begin{matrix} R_1 \\ R_2 \end{matrix}\!>\!X_2-Li \xrightarrow{\text{Electrophile}} \begin{matrix} R_1 \\ R_2 \end{matrix}\!>\!X_2-E$

****

STAFF USE ONLY

Searcher: _____

Searcher Phone #: _____

Searcher Location: _____

Date Searcher Picked Up: _____

Date Completed: _____

Searcher Prep & Review Time: _____

Online Time: _____

Type of Search

_____ NA Sequence (#)

_____ AA Sequence (#)

_____ Structure (#)

_____ Bibliographic

_____ Litigation

_____ Fulltext

_____ Other

Vendors and cost where applicable

_____ STN _____ Dialog

_____ Questel/Orbit _____ Lexis/Nexis

_____ Westlaw _____ WWW/Internet

___ In-house sequence systems

___ Commercial ___ Oligomer ___ Score/Length

___ Interference ___ SPDI ___ Encode/Transl

_____ Other (specify)

```
=> d que stat l25
L23             STR

Li~G1       O @3      S @4      N @5
 1   2

VAR G1=3/4/5
NODE ATTRIBUTES:
NSPEC    IS RC      AT   3
NSPEC    IS RC      AT   4
NSPEC    IS RC      AT   5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   5

STEREO ATTRIBUTES: NONE
L25         5136 SEA FILE=REGISTRY SSS FUL L23

100.0% PROCESSED   87376 ITERATIONS                    5136 ANSWERS
SEARCH TIME: 00.00.01


=> d que stat l62
L60             STR

Li~G1       O @3      S @4      N @5
 1   2

VAR G1=3/4/5
NODE ATTRIBUTES:
NSPEC    IS RC      AT   1
NSPEC    IS RC      AT   3
NSPEC    IS RC      AT   4
NSPEC    IS RC      AT   5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   5

STEREO ATTRIBUTES: NONE
L62         8814 SEA FILE=REGISTRY SSS FUL L60

100.0% PROCESSED   87376 ITERATIONS                    8814 ANSWERS
SEARCH TIME: 00.00.01


=> d que nos l58
L10             QUE  ABB=ON  PLU=ON  AY<2004 OR PY<2004 OR PRY<2004 OR MY
                <2004 OR REVIEW/DT
L12             QUE  ABB=ON  PLU=ON  DEPROTON? OR (DE(W)PROTON?)
L13             QUE  ABB=ON  PLU=ON  ELECTROPHIL? OR (ELECTRO(W)PHIL?)
L14             QUE  ABB=ON  PLU=ON  COUPLING
L15             QUE  ABB=ON  PLU=ON  "COUPLING REACTION"+PFT,OLD,NT/CT
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L16             QUE  ABB=ON  PLU=ON  LITHIAT? OR LITHIUMIZ? OR LITHIZE?
L18             QUE  ABB=ON  PLU=ON  LITHIATION+PFT,OLD,NT/CT
L19             QUE  ABB=ON  PLU=ON  (CARBON(4A)(N OR O OR S OR P OR NITR
                OGEN OR OXYGEN OR SULFUR OR SULPHUR OR PHOSPHORUS OR HETE
                ROATOM OR (HETERO(W)ATOM)))(7A) (BOND? OR ATTACH? OR LINK
                ?)
L20             QUE  ABB=ON  PLU=ON  FORM OR FORMED OR FORMING OR FORMS O
                R FORMATION OR GENERAT?
L23             STR
L25        5136 SEA FILE=REGISTRY SSS FUL L23
L38             QUE  ABB=ON  PLU=ON  ORGANOLITH? OR (ORGANO(W)LITH?) OR (
                ORGANIC(W)LITH?)
L41             QUE  ABB=ON  PLU=ON  ARYLLITH? OR ALKYLLITH? OR METHYLLIT
                H? OR ETHYLLITH? OR PROPYLLITH? OR BUTYLLITH? OR ((ARYL O
                R ALKYL OR METHYL OR ETHYL OR PROPYL OR BUTYL)(W)(LI OR L
                ITH?))
L43        4767 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L25 (L) RACT/RL
L44         138 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L25 (L)(L38 OR L41 OR L16 OR
                L19)
L45          58 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L43 AND L44
L46          61 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L43 AND (L15 OR L18)
L47         187 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L44 OR L45 OR L46) AND (L12
                OR L13 OR L14 OR L16 OR L19 OR L20 OR L38 OR L41)
L48         152 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L47 AND L10
L49          37 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L15 OR L18)(L)L19
L50         251 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L15 OR L18) (L) (L38 OR L41)

L51          69 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L49 OR L50) AND (L12 OR L13)

L52          62 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L51 AND L10
L53         158 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L48 OR L52) AND ORGAN?/SC,SX

L54          25 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L53 AND L12
L55          51 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L53 AND L13
L58          69 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L54 OR L55


=> d que nos l78
L10             QUE  ABB=ON  PLU=ON  AY<2004 OR PY<2004 OR PRY<2004 OR MY
                <2004 OR REVIEW/DT
L12             QUE  ABB=ON  PLU=ON  DEPROTON? OR (DE(W)PROTON?)
L13             QUE  ABB=ON  PLU=ON  ELECTROPHIL? OR (ELECTRO(W)PHIL?)
L14             QUE  ABB=ON  PLU=ON  COUPLING
L15             QUE  ABB=ON  PLU=ON  "COUPLING REACTION"+PFT,OLD,NT/CT
L16             QUE  ABB=ON  PLU=ON  LITHIAT? OR LITHIUMIZ? OR LITHIZE?
L18             QUE  ABB=ON  PLU=ON  LITHIATION+PFT,OLD,NT/CT
L19             QUE  ABB=ON  PLU=ON  (CARBON(4A)(N OR O OR S OR P OR NITR
                OGEN OR OXYGEN OR SULFUR OR SULPHUR OR PHOSPHORUS OR HETE
                ROATOM OR (HETERO(W)ATOM)))(7A) (BOND? OR ATTACH? OR LINK
                ?)
L20             QUE  ABB=ON  PLU=ON  FORM OR FORMED OR FORMING OR FORMS O
                R FORMATION OR GENERAT?
L23             STR
L25        5136 SEA FILE=REGISTRY SSS FUL L23
L38             QUE  ABB=ON  PLU=ON  ORGANOLITH? OR (ORGANO(W)LITH?) OR (
                ORGANIC(W)LITH?)
L41             QUE  ABB=ON  PLU=ON  ARYLLITH? OR ALKYLLITH? OR METHYLLIT
                H? OR ETHYLLITH? OR PROPYLLITH? OR BUTYLLITH? OR ((ARYL O
                R ALKYL OR METHYL OR ETHYL OR PROPYL OR BUTYL)(W)(LI OR L
                ITH?))
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L43         4767 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L25 (L) RACT/RL
L44          138 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L25 (L)(L38 OR L41 OR L16 OR
                 L19)
L45           58 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L43 AND L44
L46           61 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L43 AND (L15 OR L18)
L47          187 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L44 OR L45 OR L46) AND (L12
                 OR L13 OR L14 OR L16 OR L19 OR L20 OR L38 OR L41)
L48          152 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L47 AND L10
L49           37 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L15 OR L18)(L)L19
L50          251 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L15 OR L18) (L) (L38 OR L41)

L51           69 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L49 OR L50) AND (L12 OR L13)

L52           62 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L51 AND L10
L53          158 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L48 OR L52) AND ORGAN?/SC,SX

L54           25 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L53 AND L12
L55           51 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L53 AND L13
L58           69 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L54 OR L55
L60              STR
L62         8814 SEA FILE=REGISTRY SSS FUL L60
L68         5309 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L62 (L) (RACT+NT)/RL
L69          376 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L62 (L)(L14 OR L16 OR L19 OR
                 L38 OR L41)
L70          125 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L68 AND L69
L71          104 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L69 AND (L15 OR L18)
L72          144 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L70 OR L71) AND L10
L73           14 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L72 AND (L12 OR L13)
L74            3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L73 AND (L14 OR L19)
L75           11 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L73 AND ORGANIC/SC,SX
L76           14 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L73 OR L74 OR L75)
L77            2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L76 AND L12 AND L13
L78           71 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L58 OR L77


=> d que stat l80
L79              STR

                                        PRO
RRT          O @3      S @4      N @5   C~G2
                                        6   7
Li~G1
 1   2

VAR G1=3/4/5
VAR G2=3/4/5
NODE ATTRIBUTES:
NSPEC    IS RC      AT   1
NSPEC    IS RC      AT   3
NSPEC    IS RC      AT   4
NSPEC    IS RC      AT   5
NSPEC    IS RC      AT   6
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   7

STEREO ATTRIBUTES: NONE
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L80          27 SEA FILE=CASREACT SSS SAM L79 (   916 REACTIONS)

  4.9% DONE    5000 VERIFIED     916 HIT RXNS                    27 DOCS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **INCOMPLETE**
                        BATCH   **INCOMPLETE**
PROJECTED VERIFICATIONS:   2007360 TO  2041960
PROJECTED ANSWERS:           13030 TO    16232


=> d que nos l92
L10             QUE  ABB=ON  PLU=ON  AY<2004 OR PY<2004 OR PRY<2004 OR MY
                <2004 OR REVIEW/DT
L60             STR
L62          8814 SEA FILE=REGISTRY SSS FUL L60
L82          7715 SEA FILE=CASREACT ABB=ON  PLU=ON  L62
L84          1756 SEA FILE=CASREACT ABB=ON  PLU=ON  L82 AND ((COUPLING/BI,AB) OR
                (LITHIAT?/BI,AB OR LITHIUMIZ?/BI,AB OR LITHIZE?/BI,AB) OR
                ((CARBON/BI,AB(4A)(N/BI,AB OR O/BI,AB OR S/BI,AB OR P/BI,AB OR
                NITROGEN/BI,AB OR OXYGEN/BI,AB OR SULFUR/BI,AB OR SULPHUR/BI,AB
                 OR PHOSPHORUS/BI,AB OR HETEROATOM/BI,AB OR (HETERO/BI,AB(W)ATO
                M/BI,AB)))(7A) (BOND?/BI,AB OR ATTACH?/BI,AB OR LINK?/BI,AB))
                OR (ORGANOLITH?/BI,AB OR (ORGANO/BI,AB(W)LITH?/BI,AB) OR
                (ORGANIC/BI,AB(W)LITH?/BI,AB)) OR (ARYLLITH?/BI,AB OR ALKYLLITH
                ?/BI,AB OR METHYLLITH?/BI,AB OR ETHYLLITH?/BI,AB OR PROPYLLITH?
                /BI,AB OR BUTYLLITH?/BI,AB OR ((ARYL/BI,AB OR ALKYL/BI,AB OR
                METHYL/BI,AB OR ETHYL/BI,AB OR PROPYL/BI,AB OR BUTYL/BI,AB)(W)(
                LI/BI,AB OR LITH?/BI,AB))))
L85            94 SEA FILE=CASREACT ABB=ON  PLU=ON  L84 AND (DEPROTON?/BI,AB OR
                (DE/BI,AB(W)PROTON?/BI,AB))
L86            51 SEA FILE=CASREACT ABB=ON  PLU=ON  L84 AND (ELECTROPHIL?/BI,AB
                OR (ELECTRO/BI,AB(W)PHIL?/BI,AB))
L87             5 SEA FILE=CASREACT ABB=ON  PLU=ON  L85 AND L86
L88           110 SEA FILE=CASREACT ABB=ON  PLU=ON  (L85 OR L86) AND L10
L89            98 SEA FILE=CASREACT ABB=ON  PLU=ON  L88 AND ORGANIC/SC,SX
L90             4 SEA FILE=CASREACT ABB=ON  PLU=ON  L87 AND L88
L91             4 SEA FILE=CASREACT ABB=ON  PLU=ON  L87 AND L89
L92             4 SEA FILE=CASREACT ABB=ON  PLU=ON  (L90 OR L91) AND L10


=> d que stat l93
L79             STR

                                          PRO
RRT          O @3      S @4      N @5     C
                                          6  7
Li
 1  2

VAR G1=3/4/5
VAR G2=3/4/5
NODE ATTRIBUTES:
NSPEC   IS RC     AT   1
NSPEC   IS RC     AT   3
NSPEC   IS RC     AT   4
NSPEC   IS RC     AT   5
NSPEC   IS RC     AT   6
```

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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   7

STEREO ATTRIBUTES: NONE
L93          43 SEA FILE=CHEMINFORMRX SSS SAM L79 (   304 REACTIONS)

 12.5% DONE    1000 VERIFIED     304 HIT RXNS                    43 DOCS
INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.10

FULL FILE PROJECTIONS:  ONLINE  **INCOMPLETE**
                        BATCH   **INCOMPLETE**
PROJECTED VERIFICATIONS:    155300 TO   165420
PROJECTED ANSWERS:            7558 TO     9992



=> d his l116

     (FILE 'USPATFULL, USPAT2' ENTERED AT 10:43:52 ON 23 AUG 2006)
L116           8 S L115 AND L11

=> d que nos l116
L11              QUE  ABB=ON  PLU=ON  AY<2004 OR PY<2004 OR PRY<2004
L12              QUE  ABB=ON  PLU=ON  DEPROTON? OR (DE(W)PROTON?)
L13              QUE  ABB=ON  PLU=ON  ELECTROPHIL? OR (ELECTRO(W)PHIL?)
L14              QUE  ABB=ON  PLU=ON  COUPLING
L16              QUE  ABB=ON  PLU=ON  LITHIAT? OR LITHIUMIZ? OR LITHIZE?
L18              QUE  ABB=ON  PLU=ON  LITHIATION+PFT,OLD,NT/CT
L19              QUE  ABB=ON  PLU=ON  (CARBON(4A)(N OR O OR S OR P OR NITR
                 OGEN OR OXYGEN OR SULFUR OR SULPHUR OR PHOSPHORUS OR HETE
                 ROATOM OR (HETERO(W)ATOM)))(7A) (BOND? OR ATTACH? OR LINK
                 ?)
L60              STR
L62         8814 SEA FILE=REGISTRY SSS FUL L60
L63          181 SEA FILE=REGISTRY ABB=ON  PLU=ON  L62 AND USPATFULL/LC
L64           39 SEA FILE=REGISTRY ABB=ON  PLU=ON  L62 AND USPAT2/LC
L94              QUE  ABB=ON  PLU=ON  C07F001-02/IPC
L95              QUE  ABB=ON  PLU=ON  C07B?/IPC
L96              QUE  ABB=ON  PLU=ON  (C07B041 OR C07B043 OR C07B045)/IPC
L98         5394 SEA L63 OR L64
L99            5 SEA L98 AND L18
L100          55 SEA L98 AND L16/TI,IT,CC,CT,ST,STP
L101          59 SEA L98 AND L14/TI,IT,CC,CT,ST,STP
L102         135 SEA L14/TI,IT,CC,CT,ST,STP AND L16/TI,IT,CC,CT,ST,STP
L103         234 SEA (L99 OR L100 OR L101 OR L102) AND L11
L104         137 SEA L103 AND L19/TI,IT,CC,CT,ST,STP,BI,AB
L105          26 SEA L103 AND L12/TI,IT,CC,CT,ST,STP,BI,AB
L106          14 SEA L103 AND L13/TI,IT,CC,CT,ST,STP,BI,AB
L107           8 SEA L104 AND L105 AND L106
L108           7 SEA L103 AND L94
L109          10 SEA L103 AND (L95 OR L96)
L112           1 SEA L103 AND L96
L113           1 SEA L108 AND L112
L114           1 SEA L108 AND L109
L115           8 SEA L107 OR (L112 OR L113 OR L114)
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```
L116          8 SEA L115 AND L11


=> d que stat l121
L60             STR

Li~G1       O @3      S @4      N @5
 1   2

VAR G1=3/4/5
NODE ATTRIBUTES:
NSPEC    IS RC      AT    1
NSPEC    IS RC      AT    3
NSPEC    IS RC      AT    4
NSPEC    IS RC      AT    5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   5

STEREO ATTRIBUTES: NONE
L121          0 SEA FILE=WPIX SSS FUL L60

100.0% PROCESSED    1525 ITERATIONS                          0 ANSWERS
SEARCH TIME: 00.00.05


=> d que l124
L94             QUE  ABB=ON  PLU=ON  C07F001-02/IPC
L97             QUE  ABB=ON  PLU=ON  ((N261 OR N262 OR N263)(P)(N341 OR N
                342 OR N343 OR N331 OR N332 OR N333 OR N334 OR N335 OR N3
                52))/M0,M1,M2,M3,M4,M5,M6
L122         22 SEA FILE=WPIX ABB=ON  PLU=ON  L97 AND L94
L123         19 SEA FILE=WPIX ABB=ON  PLU=ON  L122 AND ((DEPROTON?/BIX OR
                (DE/BIX(W)PROTON?/BIX)) OR (ELECTROPHIL?/BIX OR (ELECTRO/BIX(W)
                PHIL?/BIX)) OR (COUPLING/BIX) OR (LITHIUM/BIX OR LI/BIX) OR
                (LITHIAT?/BIX OR LITHIUMIZ?/BIX OR LITHIZE?/BIX) OR ((CARBON/BI
                X(4A)(N/BIX OR O/BIX OR S/BIX OR P/BIX OR NITROGEN/BIX OR
                OXYGEN/BIX OR SULFUR/BIX OR SULPHUR/BIX OR PHOSPHORUS/BIX OR
                HETEROATOM/BIX OR (HETERO/BIX(W)ATOM/BIX)))(7A) (BOND?/BIX OR
                ATTACH?/BIX OR LINK?/BIX)) OR (ORGANOLITH?/BIX OR (ORGANO/BIX(W
                )LITH?/BIX) OR (ORGANIC/BIX(W)LITH?/BIX)) OR (ARYLLITH?/BIX OR
                ALKYLLITH?/BIX OR METHYLLITH?/BIX OR ETHYLLITH?/BIX OR
                PROPYLLITH?/BIX OR BUTYLLITH?/BIX OR ((ARYL/BIX OR ALKYL/BIX
                OR METHYL/BIX OR ETHYL/BIX OR PROPYL/BIX OR BUTYL/BIX)(W)(LI/BI
                X OR LITH?/BIX))))
L124         22 SEA FILE=WPIX ABB=ON  PLU=ON  L122 OR L123


=> d his l137

     (FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 11:02:28 ON 23 AUG 2006)
L137          9 S L134-L136

=> d que nos l137
L12             QUE  ABB=ON  PLU=ON  DEPROTON? OR (DE(W)PROTON?)
L13             QUE  ABB=ON  PLU=ON  ELECTROPHIL? OR (ELECTRO(W)PHIL?)
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L14             QUE  ABB=ON  PLU=ON  COUPLING
L16             QUE  ABB=ON  PLU=ON  LITHIAT? OR LITHIUMIZ? OR LITHIZE?
L19             QUE  ABB=ON  PLU=ON  (CARBON(4A)(N OR O OR S OR P OR NITR
                OGEN OR OXYGEN OR SULFUR OR SULPHUR OR PHOSPHORUS OR HETE
                ROATOM OR (HETERO(W)ATOM)))(7A) (BOND? OR ATTACH? OR LINK
                ?)
L60             STR
L62          8814 SEA FILE=REGISTRY SSS FUL L60
L65             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L62 AND MEDLINE/LC
L66            11 SEA FILE=REGISTRY ABB=ON  PLU=ON  L62 AND BIOSIS/LC
L67             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  L62 AND EMBASE/LC
L133          126 SEA L65 OR L66 OR L67
L134            2 SEA L133 AND (L19 OR L14)
L135            3 SEA L133 AND L16
L136            6 SEA L133 AND (L12 OR L13)
L137            9 SEA (L134 OR L135 OR L136)


=> d his l145

     (FILE 'MEDLINE, BIOSIS, EMBASE, PASCAL, JICST-EPLUS, JAPIO, CABA,
     LIFESCI, BIOENG, BIOTECHNO, BIOTECHDS, DRUGU, DRUGB, VETU, VETB,
     SCISEARCH, CONFSCI, DISSABS' ENTERED AT 11:06:11 ON 23 AUG 2006)
L145            7 S L144 AND L10
                SAVE TEMP L145 KUM327MUL1B/A

     FILE 'STNGUIDE' ENTERED AT 11:22:53 ON 23 AUG 2006

=> d que l145
L10             QUE  ABB=ON  PLU=ON  AY<2004 OR PY<2004 OR PRY<2004 OR MY
                <2004 OR REVIEW/DT
L12             QUE  ABB=ON  PLU=ON  DEPROTON? OR (DE(W)PROTON?)
L13             QUE  ABB=ON  PLU=ON  ELECTROPHIL? OR (ELECTRO(W)PHIL?)
L14             QUE  ABB=ON  PLU=ON  COUPLING
L16             QUE  ABB=ON  PLU=ON  LITHIAT? OR LITHIUMIZ? OR LITHIZE?
L17             QUE  ABB=ON  PLU=ON  LITHIUM OR LI
L19             QUE  ABB=ON  PLU=ON  (CARBON(4A)(N OR O OR S OR P OR NITR
                OGEN OR OXYGEN OR SULFUR OR SULPHUR OR PHOSPHORUS OR HETE
                ROATOM OR (HETERO(W)ATOM)))(7A) (BOND? OR ATTACH? OR LINK
                ?)
L38             QUE  ABB=ON  PLU=ON  ORGANOLITH? OR (ORGANO(W)LITH?) OR (
                ORGANIC(W)LITH?)
L41             QUE  ABB=ON  PLU=ON  ARYLLITH? OR ALKYLLITH? OR METHYLLIT
                H? OR ETHYLLITH? OR PROPYLLITH? OR BUTYLLITH? OR ((ARYL O
                R ALKYL OR METHYL OR ETHYL OR PROPYL OR BUTYL)(W)(LI OR L
                ITH?))
L142         3180 SEA (L17 OR L16 OR L38 OR L41)(20A)(L19 OR L14)
L143           49 SEA L142 AND L12
L144           13 SEA L143 AND L13
L145            7 SEA L144 AND L10


=> dup rem l78 l58 l92 l116 l124 l137 l145
FILE 'HCAPLUS' ENTERED AT 11:25:37 ON 23 AUG 2006
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FILE 'CASREACT' ENTERED AT 11:25:37 ON 23 AUG 2006
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FILE 'USPATFULL' ENTERED AT 11:25:37 ON 23 AUG 2006

FILE 'USPAT2' ENTERED AT 11:25:37 ON 23 AUG 2006

FILE 'WPIX' ENTERED AT 11:25:37 ON 23 AUG 2006

FILE 'MEDLINE' ENTERED AT 11:25:37 ON 23 AUG 2006

FILE 'BIOSIS' ENTERED AT 11:25:37 ON 23 AUG 2006

FILE 'EMBASE' ENTERED AT 11:25:37 ON 23 AUG 2006

FILE 'SCISEARCH' ENTERED AT 11:25:37 ON 23 AUG 2006

FILE 'DISSABS' ENTERED AT 11:25:37 ON 23 AUG 2006

PROCESSING COMPLETED FOR L78
PROCESSING COMPLETED FOR L58
PROCESSING COMPLETED FOR L92
PROCESSING COMPLETED FOR L116
PROCESSING COMPLETED FOR L124
PROCESSING COMPLETED FOR L137
PROCESSING COMPLETED FOR L145
L146 115 DUP REM L78 L58 L92 L116 L124 L137 L145 (75 DUPLICATES REMOVED)
ANSWERS '1-71' FROM FILE HCAPLUS
ANSWERS '72-74' FROM FILE CASREACT
ANSWERS '75-81' FROM FILE USPATFULL
ANSWERS '82-101' FROM FILE WPIX
ANSWER '102' FROM FILE MEDLINE
ANSWERS '103-111' FROM FILE BIOSIS
ANSWER '112' FROM FILE SCISEARCH
ANSWERS '113-115' FROM FILE DISSABS

=> file stnguide
FILE 'STNGUIDE' ENTERED AT 11:25:47 ON 23 AUG 2006

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 18, 2006 (20060818/UP).

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YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE,
BIOSIS, SCISEARCH, DISSABS' - CONTINUE? (Y)/N:y


L146 ANSWER 1 OF 115  HCAPLUS  COPYRIGHT 2006 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         2004:198231  HCAPLUS
DOCUMENT NUMBER:          140:253710
TITLE:                    preparation of aryllithium compounds using lithium
                          metal and their reaction with electrophiles.
INVENTOR(S):              Meudt, Andreas; Lehnemann, Bernd; Erbes, Michael;
                          Forstinger, Klaus
PATENT ASSIGNEE(S):       Clariant G.m.b.H., Germany
SOURCE:                   Ger. Offen., 10 pp.
                          CODEN: GWXXBX
DOCUMENT TYPE:            Patent
LANGUAGE:                 German
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     --------------       ----   --------    --------------------    --------
     DE 10240262           A1    20040311    DE 2002-10240262        20020831 <--
     WO 2004024738         A1    20040325    WO 2003-EP9252          20030821 <--
         W:  BR, CA, CN, IN, JP, KR, NO, RU, SG, US
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IT, LU, MC, NL, PT, RO, SE, SI, SK, TR
     EP 1537126            A1    20050608    EP 2003-794907          20030821 <--
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     US 2006131762         A1    20060622    US 2005-526237          20050228 <--
PRIORITY APPLN. INFO.:                      DE 2002-10240262     A  20020831 <--
                                            WO 2003-EP9252       W  20030821 <--
OTHER SOURCE(S):          CASREACT 140:253710; MARPAT 140:253710
ED   Entered STN:  11 Mar 2004
AB   Aryllithium compds. [I, II; Q = Li; R1-R4 = H, Me, (substituted) alkyl,
     alkoxy, alkylamino, (substituted) Ph, etc.; X1-X4 = C, N; adjoining pairs
     of X1-X4 = O, S, NH, etc.; Z = CF3, OCF3, Cl, F, alkoxy, aryloxy,
     alkylthio, arylthio, CH2OH, etc.], were prepared by reaction of Ar-Hal [Ar =
     (substituted) Ph, naphthyl, biphenyl; Hal = F, Cl, Br, iodo] with Li to
     give Ar-Li and reaction of Ar-Li with I, II; (Q = H; other variables as
     above). The resulting aryllithium compds. were reacted with
     electrophiles to give I, II (Q = electrophile residue;
     other variables as above). Thus, 4-ClC6H4Me and furfural di-Et acetal
     were added to a mixture of Li metal and cat. biphenyl in THF at -65°
     over 1.5 h; after 9 h tri-Me borate was added over 30 min. followed by
     stirring for another 30 min. and addition of aqueous HCl to give 81.5%
     5-formylfuran-2-boronic acid.
IC   ICM  C07F001-02
     ICS  C07F005-02; C07B037-04; C07B041-00
CC   29-4 (Organometallic and Organometalloidal
     Compounds)
     Section cross-reference(s): 25, 27
ST   aryllithium reaction electrophile; formylfuranboronate
     methoxyphenylboronate chlorotrifluoromethylbenzoate
     trifluoromethylchlorobenzaldehyde difluoroacetophenone furylboronate
     prepn; lithiation aryl halide lithium metal
IT   Nitriles, reactions
     RL: RCT (Reactant); RACT (Reactant or reagent)
```

(aliphatic nitriles; preparation of aryllithium compds. using lithium metal and
their reaction with **electrophiles**)
IT Nitriles, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(aromatic; preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT **Electrophiles**
(boron **electrophiles**; preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT Aromatic hydrocarbons, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(halo; preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT Nitro compounds
RL: RCT (Reactant); RACT (Reactant or reagent)
(nitroenolates; preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT Alkylating agents, biological
Coupling reaction
Lithiation
(preparation of **aryllithium** compds. using lithium metal and their reaction with **electrophiles**)
IT Aldehydes, reactions
Amides, reactions
Cyanates
Epoxides
Esters, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT Sulfonic acids, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(salts, acyl; preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT Carboxylic acids, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(salts; preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT Aldehydes, reactions
Ketones, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(α,β-unsatd.; preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT 37181-39-8D, Triflate, derivs
RL: RCT (Reactant); RACT (Reactant or reagent)
(aryl triflates; preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT 92-52-4, Biphenyl, uses
RL: CAT (Catalyst use); USES (Uses)
(preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT 2376-00-3P 13331-23-2P, 2-Furylboronic acid 13670-99-0P, 2,6-Difluoroacetophenone 23112-96-1P, 2,6-Dimethoxyphenylboronic acid 27329-70-0P, 5-Formylfuran-2-boronic acid 60611-22-5P
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(preparation of aryllithium compds. using lithium metal and their reaction with **electrophiles**)
IT 75-21-8, Oxirane, reactions 98-15-7, 3-Chlorobenzotrifluoride

107-31-3, Methyl formate 108-24-7, Acetic anhydride 110-00-9, Furan
121-43-7, Trimethyl borate 124-38-9, Carbon dioxide, reactions
151-10-0, Resorcinol dimethyl ether 372-18-9, 1,3-Difluorobenzene
463-51-4, Ketene 630-08-0, Carbon monoxide, reactions 2053-29-4,
Azomethine 13529-27-6, Furfural diethyl acetal 28963-72-6D, Immonium,
salts
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of aryllithium compds. using lithium metal and their reaction
with **electrophiles**)

IT 106-43-4, p-Chlorotoluene 108-90-7, Chlorobenzene, reactions
7439-93-2, Lithium, reactions 25168-05-2, Chlorotoluene
RL: RGT (Reagent); RACT (Reactant or reagent)
(preparation of aryllithium compds. using lithium metal and their reaction
with **electrophiles**)

=> d ibib ed ab hitind hitstr 2-71
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH, DISSABS' - CONTINUE? (Y)/N:y

L146 ANSWER 2 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2004:198230 HCAPLUS
DOCUMENT NUMBER: 140:253342
TITLE: Preparation of derivatized aromatics using organolithium reagents prepared in situ.
INVENTOR(S): Meudt, Andreas; Lehnemann, Bernd; Erbes, Michael; Forstinger, Klaus
PATENT ASSIGNEE(S): Clariant G.m.b.H., Germany
SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10240261	A1	20040311	DE 2002-10240261	20020831 <--
WO 2004024663	A1	20040325	WO 2003-EP9251	20030821 <--

W: BR, CA, CN, IN, JP, KR, NO, RU, SG, US
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR

PRIORITY APPLN. INFO.: DE 2002-10240261 A 20020831 <--
OTHER SOURCE(S): CASREACT 140:253342; MARPAT 140:253342
ED Entered STN: 11 Mar 2004
AB Title compds. [I; R1-R5 = H, M, (cyclic) (substituted) alkyl, alkoxy, alkylamino, arylamino, Ph, heteroaryl, alkylthio, arylthio, diarylphosphino, etc.; 2 neighboring R1-R5 = atoms to form a condensed ring; X1-X5 = C, N; Q = **electrophile** residue], were prepared by treatment of Ar-Hal [Ar = (substituted) Ph, pyridyl, naphthyl; Hal = F, Cl, Br, iodo] with Li to give Ar-Li in situ, reaction of the latter with I (Q = Hal; other variables as above) to give I (Q = Li; other variables as above), and treatment of the latter with an **electrophile**. Thus, Li in THF at -35° was treated with 4-ClC6H4Me and cat. biphenyl followed by stirring for 5 h; the mixture was cooled to -70° and treated with 4-BrC6H4CF3. After stirring for 2 h at -50°, Ac2O in THF was added at -30° followed by stirring for 30 min. to give 87.2% 4-trifluoromethylacetophenone.

IC ICM C07F001-02
ICS C07B037-04; C04B041-00
CC **25-16** (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
IT **Lithiation**
(lithiation of aryl halides; preparation of derivatized aroms. using **organolithium** reagents prepared in situ)
IT **Coupling reaction**
Electrophiles
(preparation of derivatized aroms. using **organolithium** reagents prepared in situ)

L146 ANSWER 3 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
ACCESSION NUMBER: 2004:198229 HCAPLUS
DOCUMENT NUMBER: 140:253119
TITLE: Preparation of organic compounds containing carbon-heteroatom bonds using organolithium reagents prepared in situ.
INVENTOR(S): Meudt, Andreas; Lehnemann, Bernd; Erbes, Michael; Forstinger, Klaus
PATENT ASSIGNEE(S): Clariant G.m.b.H., Germany
SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
DE 10240260	A1	20040311	DE 2002-10240260		20020831 <--
WO 2004024737	A1	20040325	WO 2003-EP9250		20030821 <--
W: BR, CA, CN, IN, JP, KR, NO, RU, SG, US					
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR					
EP 1537125	A1	20050608	EP 2003-794905		20030821 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK					
JP 2005537331	T2	20051208	JP 2004-535121		20030821 <--
US 2005258553	A1	20051124	US 2005-526327		20050228 <--
PRIORITY APPLN. INFO.:			DE 2002-10240260	A	20020831 <--
			WO 2003-EP9250	W	20030821 <--

OTHER SOURCE(S): CASREACT 140:253119; MARPAT 140:253119
ED Entered STN: 11 Mar 2004
AB A process for formation of carbon-heteroatom bonds comprises (1) treatment of R-Hal (R = Me, (substituted) alkyl, cycloalkyl, Ph, aryl, heteroaryl; Hal = F, Cl, Br, iodo) with Li metal to give RLi, (2) use of RLi for **deprotonation** of R1X1H or R1R2X2H [X1 = O, S, sp2-hybridized N; X2 = sp3-hybridized N; R1, R2 = H, Me, (substituted) alkyl, alkenyl, alkynyl, acyl, alkoxy, aryloxy, dialkylamino, arylamino, heteroaryl, carboxylate, etc.; R1R2 = atoms to form a ring], and (3) treatment of R1X1Li or R1R2X2Li with a carbon **electrophile.** Thus, Li in THF at -35° was treated with 4-ClC6H4Me followed by stirring for ca. 8 h; 2-furylmethanol was added followed by warming to room temperature, addition of propargyl bromide, and reflux for 2 h to give 93% 2-furylmethyl propargyl ether.
IC ICM C07B037-04
ICS C07B041-00; C07B043-00; C07B045-00
CC **21-2** (General **Organic** Chemistry)
Section cross-reference(s): 23, 25, 27

IT **Coupling reaction**
Lithiation
(preparation of organic compds. containing **carbon-heteroatom bonds** using **organolithium** reagents prepared in situ)

L146 ANSWER 4 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4
ACCESSION NUMBER: 2005:155125 HCAPLUS
DOCUMENT NUMBER: 143:477420
TITLE: Asymmetric **deprotonation** with alkyllithium-(-)-sparteine
AUTHOR(S): Hoppe, Dieter; Christoph, Guido
CORPORATE SOURCE: Organisch-Chemisches Institut, Westfaelischen Wilhelms-Universitaet Muenster, Muenster, D-48149, Germany
SOURCE: Chemistry of Organolithium Compounds (2004), Volume 2, 1055-1164. Editor(s): Rappoport, Zvi; Marek, Ilan. John Wiley & Sons Ltd.: Chichester, UK.
CODEN: 69GMVM; ISBN: 0-470-84339-X
DOCUMENT TYPE: Conference; **General Review**
LANGUAGE: English
ED Entered STN: 24 Feb 2005
AB A review on asym. **deprotonation.** Several different procedures for asym. **deprotonation** using allkyllituhiums and sparteine is covered in this overview.
CC **21-0** (General **Organic** Chemistry)
ST review asym **deprotonation** alkyllithium sparteine
IT Amines, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(allyl; asym. **deprotonation** with alkyllithium-(-)-sparteine)
IT Asymmetric synthesis and induction
Desymmetrization
(asym. **deprotonation** with alkyllithium-(-)-sparteine)
IT Epoxides
RL: RCT (Reactant); RACT (Reactant or reagent)
(asym. **deprotonation** with alkyllithium-(-)-sparteine)
IT **Deprotonation**
Lithiation
(asym.; asym. **deprotonation** with **alkyllithium** -(-)-sparteine)
IT Ethers, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(benzyl; asym. **deprotonation** with alkyllithium-(-)-sparteine)
IT Resolution (separation)
(kinetic; asym. **deprotonation** with alkyllithium-(-)-sparteine)
IT Heterocyclic compounds
RL: RCT (Reactant); RACT (Reactant or reagent)
(nitrogen; asym. **deprotonation** with alkyllithium-(-)-sparteine)
IT Addition reaction
Aldol condensation
(stereoselective; asym. **deprotonation** with alkyllithium-(-)-sparteine)
IT 90-39-1, (-)-Sparteine
RL: RGT (Reagent); RACT (Reactant or reagent)
(asym. **deprotonation** with alkyllithium-(-)-sparteine)
REFERENCE COUNT: 413 THERE ARE 413 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 5 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 6
ACCESSION NUMBER: 2003:900371 HCAPLUS
DOCUMENT NUMBER: 140:128452
TITLE: Stereoselective lithiation of α,β-epoxy-γ,δ-vinylsilanes and transformation into α-silylated ketones
AUTHOR(S): Courillon, Christine; Marie, Jean-Charle; Malacria, Max
CORPORATE SOURCE: Laboratoire de Chimie Organique, Universite P. et M. Curie, Associe au CNRS, Paris, 75252, Fr.
SOURCE: Tetrahedron (**2003**), 59(49), 9759-9766
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:128452
ED Entered STN: 18 Nov 2003
AB A (cis)α,β-epoxy-γ,δ-vinyl-silane undergoes lithiation α to the Si atom with retention of the configuration of the oxirane. This leads to new silylated vinyloxiranes with a quaternary silylated stereogenic C atom. The possible and efficient rearrangement of a Me substituted adduct into a β,γ-unsatd.-α-silylated ketone is shown.
CC **29-6** (**Organometallic** and **Organometalloidal** Compounds)
ST epoxyvinylsilane prepn stereoselective **electrophilic** trapping reaction; ketones alpha silylated prepn; vinyloxiranes silylated prepn
IT **Lithiation**
(ring opening reactions of alpha,beta-epoxyvinylsilanes with **alkyllithiums**)
IT Asymmetric synthesis and induction
Silylation
Stereoselective synthesis
(stereoselective **electrophilic** trapping reactions of alpha,beta-epoxyvinylsilanes and their transformation into alpha-silylated ketones)
IT Ketones, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(stereoselective **electrophilic** trapping reactions of alpha,beta-epoxyvinylsilanes and their transformation into alpha-silylated ketones)
IT Epoxides
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(vinyloxiranes; stereoselective **electrophilic** trapping reactions of alpha,beta-epoxyvinylsilanes and their transformation into alpha-silylated ketones)
IT Silanes
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(vinylsilanes, α,β-epoxy-γ,δ-vinylsilanes; stereoselective **electrophilic** trapping reactions of alpha,beta-epoxyvinylsilanes and their transformation into alpha-silylated ketones)
IT 1779-49-3, Methyltriphenylphosphonium bromide
RL: RCT (Reactant); RACT (Reactant or reagent)
(Wittig reaction of phosphonium bromide with silylated aldehyde to give alpha,beta-epoxyvinylsilanes and their subsequent stereoselective **electrophilic** trapping reactions)
IT 1067-74-9 88738-78-7

RL: RCT (Reactant); RACT (Reactant or reagent)
(Wittig reaction of silylated aldehyde with phosphonium bromide to give alpha,beta-epoxyvinylsilanes and their subsequent stereoselective **electrophilic** trapping reactions)

IT 120789-51-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydride reduction of silylated propargylic alc. to give alpha,beta-epoxyvinylsilanes and their subsequent stereoselective **electrophilic** trapping reactions)

IT 630403-40-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and Wittig reaction of silylated aldehyde with phosphonium bromide to give alpha,beta-epoxyvinylsilanes and their subsequent stereoselective **electrophilic** trapping reactions)

IT 154673-67-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and epoxidn. of silylallylic alc. to give alpha,beta-epoxyvinylsilane and its subsequent stereoselective **electrophilic** trapping reactions)

IT 650638-84-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and oxidation of silylallylic alc. to give alpha,beta-epoxyvinylsilane and its subsequent stereoselective **electrophilic** trapping reactions)

IT 75-77-4, Trimethylsilyl chloride, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and stereoselective **electrophilic** trapping reactions of alpha,beta-epoxyvinylsilanes and their transformation into alpha-silylated ketones)

IT 444120-55-2P 444120-62-1P 444120-63-2P 650638-87-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and stereoselective **electrophilic** trapping reactions of alpha,beta-epoxyvinylsilanes and their transformation into alpha-silylated ketones)

IT 444120-54-1P 444120-57-4P 444120-58-5P 650638-86-1P 650638-88-3P 650638-89-4P 650638-90-7P 650638-95-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and stereoselective **electrophilic** trapping reactions of alpha,beta-epoxyvinylsilanes and their transformation into alpha-silylated ketones)

IT 100-52-7, Benzaldehyde, reactions 556-56-9, Allyl iodide 17640-15-2, Methyl cyanoformate
RL: RCT (Reactant); RACT (Reactant or reagent)
(stereoselective **electrophilic** trapping reactions of alpha,beta-epoxyvinylsilanes and their transformation into alpha-silylated ketones)

IT 444120-71-2P 444120-72-3P 444120-73-4P 444120-74-5P 650638-85-0P 650638-94-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(stereoselective **electrophilic** trapping reactions of alpha,beta-epoxyvinylsilanes and their transformation into alpha-silylated ketones)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 6 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 7

ACCESSION NUMBER: 2003:545291 HCAPLUS
DOCUMENT NUMBER: 139:245621
TITLE: Ketone Enolization with Lithium Dialkylamides: The Effects of Structure, Solvation, and Mixed Aggregates with Excess **Butyllithium**
AUTHOR(S): Pratt, Lawrence M.; Newman, Anthony; St. Cyr, Jason; Johnson, Harry; Miles, Benjamin; Lattier, April; Austin, Elizabeth; Henderson, Susan; Hershey, Brad; Lin, Ming; Balamraju, Yuvaraju; Sammonds, Laurel; Cheramie, Jeffery; Karnes, Jonathan; Hymel, Ellen; Woodford, Brittini; Carter, Carl
CORPORATE SOURCE: Department of Chemistry, Fisk University, Nashville, TN, 37208, USA
SOURCE: Journal of Organic Chemistry (**2003**), 68(16), 6387-6391
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 17 Jul 2003
AB The effects of Li dialkylamide structure, mixed aggregate **formation**, and solvation on the stereoselectivity of ketone enolization were examined Of the Li dialkylamides examined, Li tetramethylpiperidide (LiTMP) in THF resulted in the best enolization selectivity. The stereoselectivity was further improved in the presence of a LiTMP-**butyllithium** mixed aggregate. The use of less polar solvents reduced the enolization stereoselectivity. Ab initio calcns. predict LDA and LiTMP to **form** mixed cyclic dimers in ethereal solvents. The calcns. also predict LiTMP-**alkyllithium** mixed aggregates to competitively inhibit the **formation** of less stereoselective LiTMP-Li enolate mixed aggregates.
CC **22-12** (Physical **Organic** Chemistry)
Section cross-reference(s): **29**
ST ketone enolization lithium dialkylamide MO structure solvation aggregate **butyllithium**; mixed dimer lithium dialkylamide **butyllithium** ketone enolization
IT Density functional theory
(B3LYP; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)
IT Self-consistent reaction field
(CPCM; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)
IT Ethers, reactions
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(coordinating solvents; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)
IT Dimers
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)
(cyclic mixed; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)
IT Enolization
Hartree-Fock method
Molecular association

Solvation
Solvent effect
(effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Ketones, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Diastereomers
(geometric, enol; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Stereochemistry
(geometric; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT **Deprotonation**
(ketones by lithium reagents; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Addition reaction
(limited **butyllithium** or aggregate addns. to acetophenone; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Dimerization enthalpy
(mixed dimers; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Steric effects
(on mixed aggregate **formation**; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Molecular structure
(optimized; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Amines, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(salts, lithium dialkylamides; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Free energy
(solvation; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT Free energy
(total; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT NMR (nuclear magnetic resonance)
(6Li; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 108-18-9, Diisopropylamine 768-66-1, 2,2,6,6-Tetramethylpiperidine 999-97-3, 1,1,1,3,3,3-Hexamethyldisilazane
RL: RCT (Reactant); RACT (Reactant or reagent)
(N-**lithiation**; effects of structure, solvation, and mixed

aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 110-18-9, TMEDA
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(coordinating ligand; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 60-29-7, Diethyl ether, reactions 109-99-9, THF, reactions
RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(coordinating solvent ligand; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 75-77-4, Chlorotrimethylsilane, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(derivatization of lithium enolates; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT **521085-98-3 596828-54-5 596828-55-6**
RL: PRP (Properties); RCT (Reactant); **RACT (Reactant or reagent)**
(dimerization with **ethyllithium** di-Me etherate; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 596828-56-7
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(dimerization with lithium dialkylamide di-Me etherate; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 4039-32-1 4111-54-0 7439-93-2D, Lithium, tetramethylpiperidine-**Et lithium**, diisopropylamine-Bu lithium and hexamethyldisilazane-Bu lithium mixed aggregate complexes 14258-72-1D, Lithium-6, tetramethylpiperidine-15N-**Et lithium** mixed aggregate complexes, reactions 137003-47-5D, lithium-6-**Et lithium** mixed aggregate complexes 596828-60-3 596828-61-4 596828-62-5 596828-63-6
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); RACT (Reactant or reagent)
(effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 109-72-8, **Butyllithium**, reactions 811-49-4, **Ethyllithium** 38227-87-1
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 98-86-2, Acetophenone, reactions
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 51425-53-7 51425-54-8
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 74016-27-6
RL: FMU (Formation, unclassified); PRP (Properties); RCT (Reactant); FORM

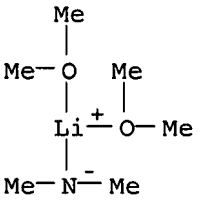
(Formation, nonpreparative); RACT (Reactant or reagent)
(effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT 107-87-9, 2-Pentanone
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(geometric stereochem. of **deprotonation**; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

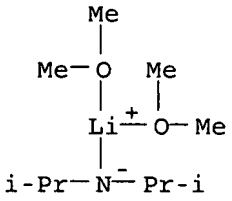
IT 596828-57-8 596828-58-9 596828-59-0 **596828-64-7 596828-65-8 596828-66-9**
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(interconversion of cyclic and open dimers; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

IT **521085-98-3 596828-54-5 596828-55-6**
RL: PRP (Properties); RCT (Reactant); **RACT (Reactant or reagent)**
(dimerization with **ethyllithium** di-Me etherate; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

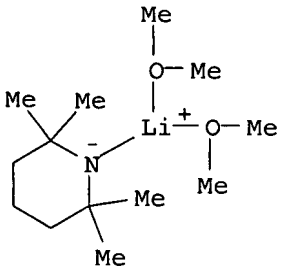
RN 521085-98-3 HCAPLUS
CN Lithium, (N-methylmethanaminato)bis[oxybis[methane]]- (9CI) (CA INDEX NAME)



RN 596828-54-5 HCAPLUS
CN Lithium, [N-(1-methylethyl)-2-propanaminato]bis[oxybis[methane]]- (9CI) (CA INDEX NAME)

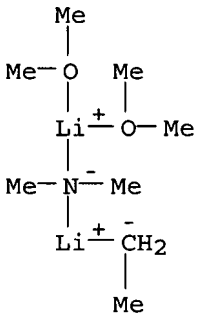


RN 596828-55-6 HCAPLUS
CN Lithium, bis[oxybis[methane]](2,2,6,6-tetramethyl-1-piperidinyl)- (9CI) (CA INDEX NAME)

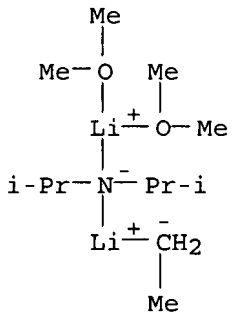


IT **596828-64-7 596828-65-8 596828-66-9**
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(interconversion of cyclic and open dimers; effects of structure, solvation, and mixed aggregates with excess **butyllithium** on ketone enolization with lithium dialkylamides)

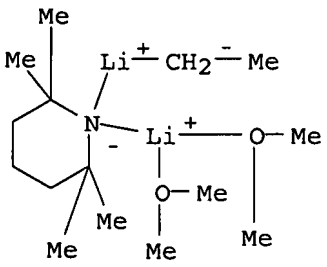
RN 596828-64-7 HCAPLUS
CN Lithium, ethyl[μ-(N-methylmethanaminato)]bis[oxybis[methane]]di- (9CI) (CA INDEX NAME)



RN 596828-65-8 HCAPLUS
CN Lithium, ethyl[μ-[N-(1-methylethyl)-2-propanaminato]]bis[oxybis[methane]]di- (9CI) (CA INDEX NAME)



RN 596828-66-9 HCAPLUS
CN Lithium, ethylbis[oxybis[methane]][μ-(2,2,6,6-tetramethyl-1-piperidinyl)]di- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 7 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 8
ACCESSION NUMBER: 2003:552700 HCAPLUS
DOCUMENT NUMBER: 139:364400
TITLE: Direct transformation of allylic and benzylic thiols, thioethers, and disulfides into organolithium compounds
AUTHOR(S): Yus, Miguel; Martinez, Pedro; Guijarro, David
CORPORATE SOURCE: Departamento de Quimica Organica, Facultad de Ciencias, Universidad de Alicante, Alicante, Spain
SOURCE: Synthetic Communications (**2003**), 33(13), 2365-2376
CODEN: SYNCAV; ISSN: 0039-7911
PUBLISHER: Marcel Dekker, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:364400
ED Entered STN: 20 Jul 2003
AB The reaction of allylic and benzylic thiols, disulfides, and thioethers with excess lithium and a catalytic amount of 4,4'-di-tert-butylbiphenyl (5 mol %) afforded allylic and benzylic organolithium reagents via reductive cleavage of the carbon-sulfur bond. The generated organolithium compds. gave the expected products by reaction with several **electrophiles**, followed by hydrolysis with water. The reaction conditions and the lithiation procedure (stepwise or Barbier-type process) depended on the starting sulfur containing compound
CC **21-2** (General **Organic** Chemistry)
ST lithium reaction allylic benzylic thiol thioether disulfide; organolithium compd reaction **electrophile**
IT **Lithiation**
(transformation of allylic and benzylic thiols, thioethers, and disulfides into **organolithium** compds. and subsequent reaction with **electrophiles**)
IT 75-77-4, Chlorotrimethylsilane, reactions 96-22-0, 3-Pentanone 100-52-7, Benzaldehyde, reactions 100-53-8, Benzyl thiol 108-94-1, Cyclohexanone, reactions 123-19-3, Dipropyl ketone 150-60-7, Dibenzyl disulfide 538-74-9, Dibenzyl sulfide 630-19-3, Pivalaldehyde 766-92-7, Benzyl methyl sulfide 10152-76-8, Allyl methyl sulfide 39067-82-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(transformation of allylic and benzylic thiols, thioethers, and disulfides into organolithium compds. and subsequent reaction with **electrophiles**)
IT 614-29-9P 770-09-2P, Benzyltrimethylsilane 936-58-3P 1944-01-0P 34577-40-7P 50695-92-6P 62108-07-0P 78055-70-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(transformation of allylic and benzylic thiols, thioethers, and disulfides into organolithium compds. and subsequent reaction with **electrophiles**)
REFERENCE COUNT: 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

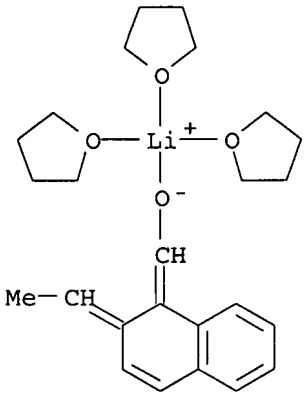
L146 ANSWER 8 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 9
ACCESSION NUMBER: 2003:491897 HCAPLUS
DOCUMENT NUMBER: 140:27720
TITLE: Intramolecular carbolithiation reactions for the preparation of 3-alkenylpyrrolidines
AUTHOR(S): Coldham, Iain; Price, Kathy N.; Rathmell, Richard E.
CORPORATE SOURCE: School of Chemistry, University of Exeter, Exeter, EX4 4QD, UK
SOURCE: Organic & Biomolecular Chemistry (**2003**), 1(12), 2111-2119
CODEN: OBCRAK; ISSN: 1477-0520
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:27720
ED Entered STN: 29 Jun 2003
AB Tin-lithium exchange allows the formation of α-amino-organolithium species, e.g., I, that undergo anionic cyclization onto allylic ethers to give 3-alkenylpyrrolidines, e.g, II. The methodol. has been applied to the synthesis of an advanced intermediate related to the natural product (-)-α-kainic acid III.
CC **27-10** (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 26
IT **Lithiation**
Stereoselective synthesis
(preparation of alkenylpyrrolidines via tin-lithium exchange of α-amino-organotin species with **butyllithium** followed by intramol. anionic cyclization onto allylic ethers)
IT 541-41-3, Ethyl chloroformate
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of N-carboxylate derivative of azabicyclic octane via **electrophilic** substitution of the corresponding N-benzyl bicyclic amine with Et chloroformate)
IT 634180-90-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of N-carboxylate derivative of azabicyclic octane via **electrophilic** substitution of the corresponding N-benzyl bicyclic amine with Et chloroformate)
REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 9 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 10
ACCESSION NUMBER: 2003:347338 HCAPLUS
DOCUMENT NUMBER: 139:100899
TITLE: Selectivities in Reactions of Organolithium Reagents with Unprotected 2-Halobenzoic Acids
AUTHOR(S): Gohier, Frederic; Castanet, Anne-Sophie; Mortier, Jacques
CORPORATE SOURCE: Unite de Chimie Organique Moleculaire et Macromoleculaire (UMR 6011), Faculte des Sciences, Universite du Maine and CNRS, Le Mans, 72085, Fr.
SOURCE: Organic Letters (**2003**), 5(11), 1919-1922
CODEN: ORLEF7; ISSN: 1523-7060

PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:100899
ED Entered STN: 08 May 2003
AB Exposing 2-FC6H4CO2H to 2.2 equiv of LTMP at ca. -78 °C leads to **deprotonation** at the 3-position whereas 2-ClC6H4CO2H and 2-BrC6H4CO2H are lithiated adjacent to the carboxylate. The resulting dianions are trapped as such by chlorotrimethylsilane. In the absence of internal quench, the 6-lithio derivs.isomerize to the more stable 3-lithio derivs. The latter eliminate lithium halide and set free benzyne-3-carboxylate that reacts regioselectively with LTMP to give 3-tetramethylpiperidinobenzoic acid.
CC **25-17** (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
IT **Lithiation**
(regioselective; selectivities in reactions of **organolithium** reagents with unprotected 2-halobenzoic acids)
REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 10 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 11
ACCESSION NUMBER: 2003:496720 HCAPLUS
DOCUMENT NUMBER: 140:128137
TITLE: Variations in the solid-state, solution and theoretical structures of a laterally **deprotonated** aromatic tertiary amide
AUTHOR(S): Armstrong, David R.; Clayden, Jonathan; Haigh, Robert; Linton, David J.; Schooler, Paul; Wheatley, Andrew E. H.
CORPORATE SOURCE: Department of Pure and Applied Chemistry, University of Strathclyde, Strathclyde, G1 1XL, UK
SOURCE: Chemical Communications (Cambridge, United Kingdom) (**2003**), (14), 1694-1695
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:128137
ED Entered STN: 30 Jun 2003
AB Reaction of 2-ethyl-N,N-diisopropyl-1-naphthamide 3 with ButLi in THF affords a laterally metalated derivative which exists as a tris(thf) solvated monomer with no Li-C interaction and an sp2 hybridized carbanionic center in the solid-state; NMR spectroscopy suggests that this structure is viable in solution but that Li-C bonded atropisomers are also possible and calcns. corroborate these data.
CC **25-24** (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): **22**, 75
ST solid soln theor structure laterally **deprotonated** arom tertiary amide; **lithiated** ethyldiisopropyl naphthamide solid soln theor structure; crystal mol structure **lithiated** ethyldiisopropyl naphthamide
IT Density functional theory
(B3LYP; variations in solid-state, solution and theor. structures of **lithiated** ethyldiisopropyl naphthamide as an laterally **deprotonated** aromatic tertiary amide)
IT Crystal structure
Molecular structure
(of **lithiated** ethyldiisopropyl naphthamide)

IT Molecular structure
(optimized; variations in solid-state, solution and theor. structures of **lithiated** ethyldiisopropyl naphthamide as an laterally **deprotonated** aromatic tertiary amide)
IT Atropisomers
Solution structure
Total energy
(variations in solid-state, solution and theor. structures of **lithiated** ethyldiisopropyl naphthamide as an laterally **deprotonated** aromatic tertiary amide)
IT 189389-39-7 651003-88-2 651003-90-6 651003-91-7 651003-92-8
651003-93-9 651003-94-0 651003-95-1 651003-96-2 651003-97-3
651003-98-4 651003-99-5
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(B3LYP calcn.; variations in solid-state, solution and theor. structures of **lithiated** ethyldiisopropyl naphthamide as an laterally **deprotonated** aromatic tertiary amide)
IT **651003-89-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crystal structure; variations in solid-state, solution and theor. structures of **lithiated** ethyldiisopropyl naphthamide as an laterally **deprotonated** aromatic tertiary amide)
IT 189389-35-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(variations in solid-state, solution and theor. structures of **lithiated** ethyldiisopropyl naphthamide as an laterally **deprotonated** aromatic tertiary amide)
IT **651003-89-3P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(crystal structure; variations in solid-state, solution and theor. structures of **lithiated** ethyldiisopropyl naphthamide as an laterally **deprotonated** aromatic tertiary amide)
RN 651003-89-3 HCAPLUS
CN Lithium, [[(2E)-2-ethylidene-1(2H)-naphthalenylidene]methanolato]tris(tetrahydrofuran)-, (T-4)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 11 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 12
ACCESSION NUMBER: 2004:265907 HCAPLUS
DOCUMENT NUMBER: 141:295663

TITLE: Synthesis of diarylmethylamines via **electrophilic** trapping of tricarbonyl chromium complexed aryllithium intermediates with imines
AUTHOR(S): Chen, Yong-Jun; Zhao, Cui-Hua; Liu, Li; Wang, Dong
CORPORATE SOURCE: Laboratory of Chemical Biology, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Journal of Chemical Research, Synopses (**2003**), (11), 740-743
CODEN: JRPSDC; ISSN: 0308-2342
PUBLISHER: Science Reviews
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:295663
ED Entered STN: 01 Apr 2004
AB Diarylmethylamine derivs., e.g. I, were synthesized in good yields via lithiation of the tricarbonyl(η6-arene)chromium complexes, e.g. II, followed by **electrophilic** trapping with imines, e.g. Ph-CH=NTs, and de-complexation (sunlight and air).
CC **25-4** (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): **29**
ST photochem **electrophilic** coupling imine lithiation carbonyl chromium arylmethylamine prepn
IT Amines, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(aromatic; synthesis of diarylmethylamines via **electrophilic** trapping of tricarbonyl chromium complexed aryllithium intermediates with imines)
IT **Coupling reaction**
(photochem.; synthesis of diarylmethylamines via **electrophilic** trapping of tricarbonyl chromium complexed **aryllithium** intermediates with imines)
IT Imines
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of diarylmethylamines via **electrophilic** trapping of tricarbonyl chromium complexed aryllithium intermediates with imines)
IT 783-08-4 3157-65-1 12082-02-9 12082-03-0 12082-05-2 12082-08-5, (Benzene)tricarbonylchromium 12083-24-8 12116-44-8 13707-41-0 13707-46-5 14674-38-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of diarylmethylamines via **electrophilic** trapping of tricarbonyl chromium complexed aryllithium intermediates with imines)
IT 853-83-8P 224784-33-2P 258277-17-7P 258277-19-9P 258277-20-2P 765315-92-2P 765315-96-6P 765315-97-7P 765315-98-8P 765315-99-9P 765316-00-5P 765316-01-6P 765316-02-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of diarylmethylamines via **electrophilic** trapping of tricarbonyl chromium complexed aryllithium intermediates with imines)
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 12 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 13
ACCESSION NUMBER: 2003:79499 HCAPLUS
DOCUMENT NUMBER: 139:6948
TITLE: Sequestered alkyllithiums: why phenyllithium alone is suitable for betaine-ylide generation
AUTHOR(S): Wang, Qian; Deredas, Dariusz; Huynh, Cyril; Schlosser,

Manfred
CORPORATE SOURCE: Institut de Chimie Organique, Universite, BCh, Lausanne, 1015, Switz.
SOURCE: Chemistry--A European Journal (**2003**), 9(2), 570-574
CODEN: CEUJED; ISSN: 0947-6539
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:6948
ED Entered STN: 02 Feb 2003

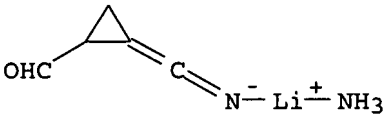
AB The key step in the trans-selective modification of the Wittig reaction is the α-lithiation of the lithium bromide coordinated ylide-aldehyde adduct (the so-called "P-betaine"). The olefination reactions were carried out for RCHO and [R1CH2PPh3]Br (R = C6H3, Ph, CH2:CMe, iPr, tBu; R1 = Bu, Pr, PhCH2CH2, C5H11) applying PhLi, MeLi, BuLi, sec-BuLi and tert-BuLi as bases. Only PhLi and MeLi yielded (E)-alkenes with good stereoselectivity (>98%), whereas other organolithium bases yielded (E)-(Z)-mixts. Special experiment with (C6D5)3P showed, that phenyllithium acts solely as base, forming α-lithiated betaine, and no P-Ph addition intermediates were formed. Only phenyllithium effects this **deprotonation** rapidly and cleanly. Alkyllithiums (in particular, butyl-, sec-butyl-, and tert-butyllithium) react only sluggishly and incompletely, being tied up in very stable mixed aggregates with the lithium alkoxide part of the betaines. The different results of the Wittig reaction are accounted to the low aggregation ability of PhLi and (MeLi)4, which disfavors the formation of mixed product-base aggregates.

CC **29-7** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): **22**, 23
ST phenyllithium alkyllithium Wittig reaction trans selective mechanism; phosphonium salt **deprotonation** phenyllithium methyllithium butyllithium mechanism aggregation; trans selectivity olefination aldehyde triphenylphosphonium salt phenyllithium alkyllithium base
IT **Lithiation**
(Wittig olefination intermediate; mechanism of lithiation of aldehyde-ylide adduct in trans-selective Wittig olefination with salt-containing **organolithium** bases)
IT **Deprotonation**
(Wittig olefination intermediate; mechanism of trans-selective Wittig olefination with salt-containing organolithium bases in dependence on their structure)
IT Phosphonium compounds
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(**deprotonation** of phosphonium salts in mechanism of trans-selective Wittig olefination with salt-containing organolithium bases)
IT 1779-51-7, Butyltriphenylphosphonium bromide 4762-26-9, Hexyltriphenylphosphonium bromide 7484-37-9, Triphenyl(3-phenylpropyl)phosphonium bromide 21406-61-1, Pentyltriphenylphosphonium bromide
RL: RCT (Reactant); RACT (Reactant or reagent)
(**deprotonation**, olefination; stereoselectivity and mechanism of trans-selective Wittig olefination of aldehydes with salt-containing organolithium bases)
REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

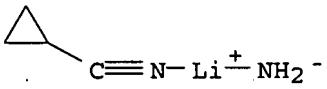
L146 ANSWER 13 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 14

ACCESSION NUMBER: 2003:321596 HCAPLUS
DOCUMENT NUMBER: 140:27851
TITLE: Configurational stability of chiral **lithiated** cyclopropylnitriles: A density functional study
AUTHOR(S): Carlier, Paul R.
CORPORATE SOURCE: Department of Chemistry, Virginia Tech, Blacksburg, VA, 24061, USA
SOURCE: Chirality (**2003**), 15(4), 340-347
CODEN: CHRLEP; ISSN: 0899-0042
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 27 Apr 2003
AB Chiral, configurationally stable **lithiated** nitriles would be valuable intermediates for asym. C-C bond-**forming** reactions. To gain insight into the design of such species, Walborsky's attempted enantioselective **deprotonation**/trapping reactions of a chiral cyclopropylnitrile were studied computationally up to the MP2(fc)/6-31+G* and B3LYP/6-31+G* levels. Study of cyclopropylnitrile/LiNH2 **deprotonation** transition structures demonstrated a significant (20-23 kcal/mol) kinetic preference for N-**lithiation**, and a facile (4-6 kcal/mol barrier) conducted tour racemization pathway for the N-**lithiated** nitrile product. Addition of a model directing group (formyl) to the β-C of the cyclopropyl ring is predicted to significantly favor C-**lithiation** over N-**lithiation**, both kinetically and thermodynamically. Thus, chiral β-Lewis base substituted cyclopropylnitriles may serve as precursors to chiral, configurationally stable **organolithium** reagents.
CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): **22**
ST DFT study configurational stability chiral **lithiated** cyclopropylnitrile; inversion barrier chiral **lithiated** cyclopropylnitrile DFT; **deprotonation** mechanism chiral cyclopropylnitrile lithium amide DFT
IT Density functional theory
(B3LYP; DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT Inversion barrier
Total energy
Transition state structure
(DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT MP2 (second-order Moller-Plesset method)
(MP2(fc); DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT Nitriles, properties
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(cyclopropylnitriles; DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT **Deprotonation**
Racemization
(mechanism; DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)

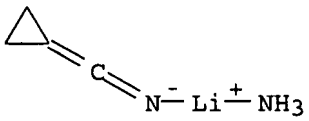
IT Molecular structure
(optimized; DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT **Deprotonation**
(stereoselective, mechanism; DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT 633303-93-2 **633304-01-5** 633304-02-6 633304-03-7
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)
(DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT **633303-88-5 633303-91-0 633303-97-6**
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT 5500-21-0, Cyclopropylnitrile **7782-89-0**, Lithium amide 633303-86-3
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); **RACT (Reactant or reagent)**
(DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT **633303-95-4**
RL: PRP (Properties)
(DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT **633303-99-8**
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(hydrogen-bonded isomers; DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT 1724-45-4, Cyclopropane ion(1-) 21438-99-3, Acetonitrile ion(1-), properties 76510-29-7, Cyclopropanecarbonitrile ion(1-)
RL: PRP (Properties)
(inversion barrier, deformation angle; DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
IT **633304-01-5**
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)
(DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
RN 633304-01-5 HCAPLUS
CN Lithium, ammine[(carbonimidoyl-κN)cyclopropanecarboxaldehydato]- (9CI) (CA INDEX NAME)



IT **633303-88-5 633303-91-0 633303-97-6**
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
RN 633303-88-5 HCAPLUS
CN Lithium, amido(cyclopropanecarbonitrile)- (9CI) (CA INDEX NAME)

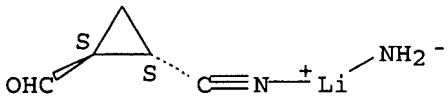


RN 633303-91-0 HCAPLUS
CN Lithium, ammine(1-cyclopropylidenemethaniminato)- (9CI) (CA INDEX NAME)

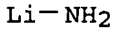


RN 633303-97-6 HCAPLUS
CN Lithium, amido[rel-(1R,2R)-2-formylcyclopropanecarbonitrile-κN]- (9CI) (CA INDEX NAME)

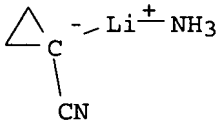
Relative stereochemistry.



IT **7782-89-0**, Lithium amide
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); **RACT (Reactant or reagent)**
(DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
RN 7782-89-0 HCAPLUS
CN Lithium amide (Li(NH2)) (7CI, 8CI, 9CI) (CA INDEX NAME)

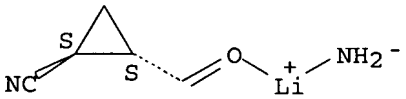


IT **633303-95-4**
RL: PRP (Properties)
(DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
RN 633303-95-4 HCAPLUS
CN Lithium, ammine(1-cyanocyclopropyl)- (9CI) (CA INDEX NAME)



IT **633303-99-8**
RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(hydrogen-bonded isomers; DFT study of configurational stability of chiral **lithiated** cyclopropylnitriles and **deprotonation** mechanisms for cyclopropylnitriles)
RN 633303-99-8 HCAPLUS
CN Lithium, amido[rel-(1R,2R)-2-(formyl-κO)cyclopropanecarbonitrile]- (9CI) (CA INDEX NAME)

Relative stereochemistry.



REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 14 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 15
ACCESSION NUMBER: 2003:580605 HCAPLUS
DOCUMENT NUMBER: 140:128102
TITLE: The palladium-catalyzed cross-coupling reaction of lithium polyfluorophenyltrimethoxyborates with 4-fluoroiodobenzene
AUTHOR(S): Frohn, Hermann-Josef; Adonin, Nicolay Yu.; Bardin, Vadim V.; Starichenko, Vladimir F.
CORPORATE SOURCE: Inorganic Chemistry, Institute of Chemistry, University Duisburg-Essen, Duisburg, D-47048, Germany
SOURCE: Journal of Fluorine Chemistry (**2003**), 122(2), 195-199
CODEN: JFLCAR; ISSN: 0022-1139
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:128102
ED Entered STN: 30 Jul 2003
AB Li[C6F5B(OMe)3], Li[C6HF4B(OMe)3] (all three isomers) and Li[3,4,5-C6H2F3B(OMe)3] are examples of polyfluorophenyltrimethoxyborate

salts, which have been used as reagents in Pd-catalyzed cross-coupling reactions. A series of polyfluorinated biphenyls C6H5-nFn-C6H4F-4', e.g., I, were obtained from Li[C6H5-nFnB(OMe)3] and the model substrate 4-FC6H4I in the presence of Pd catalysts. The influence of the number and the position of fluorine atoms in the polyfluorophenyltrimethoxyborate salts on the reactivity in the coupling reaction was elucidated.

CC **25-8** (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

IT Aromatic compounds
RL: RCT (Reactant); RACT (Reactant or reagent)
(fluoro arenes; preparation of polyfluorinated biphenyls via **deprotonation** of polyfluorobenzenes with butyllithium followed by addition to tri-Me borate and palladium-catalyzed cross-coupling with fluoroiodobenzene)

IT **Cross-coupling reaction**
(preparation of polyfluorinated biphenyls via **deprotonation** of polyfluorobenzenes with **butyllithium** followed by addition to tri-Me borate and palladium-catalyzed cross-coupling with fluoroiodobenzene)

IT Borates
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of polyfluorinated biphenyls via **deprotonation** of polyfluorobenzenes with butyllithium followed by addition to tri-Me borate and palladium-catalyzed cross-coupling with fluoroiodobenzene)

IT Biaryls
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of polyfluorinated biphenyls via **deprotonation** of polyfluorobenzenes with butyllithium followed by addition to tri-Me borate and palladium-catalyzed cross-coupling with fluoroiodobenzene)

IT 3375-31-3, Palladium(II)acetate 14221-01-3, Tetrakis(triphenylphosphine)palladium
RL: CAT (Catalyst use); USES (Uses)
(preparation of polyfluorinated biphenyls via **deprotonation** of polyfluorobenzenes with butyllithium followed by addition to tri-Me borate and palladium-catalyzed cross-coupling with fluoroiodobenzene)

IT 121-43-7, Trimethylborate 327-54-8, 2,3,5,6-Tetrafluorobenzene 352-34-1, 4-Fluoroiodobenzene 363-72-4, Pentafluorobenzene 551-62-2, 2,3,4,5-Tetrafluorobenzene 2367-82-0, 1,2,3,5-Tetrafluorobenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of polyfluorinated biphenyls via **deprotonation** of polyfluorobenzenes with butyllithium followed by addition to tri-Me borate and palladium-catalyzed cross-coupling with fluoroiodobenzene)

IT 408497-69-8P 649756-92-3P 649756-93-4P 649756-94-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of polyfluorinated biphenyls via **deprotonation** of polyfluorobenzenes with butyllithium followed by addition to tri-Me borate and palladium-catalyzed cross-coupling with fluoroiodobenzene)

IT 29778-93-6P 505058-31-1P 505058-33-3P 505058-35-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of polyfluorinated biphenyls via **deprotonation** of polyfluorobenzenes with butyllithium followed by addition to tri-Me borate and palladium-catalyzed cross-coupling with fluoroiodobenzene)

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 15 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 16
ACCESSION NUMBER: 2003:684684 HCAPLUS
DOCUMENT NUMBER: 140:76663

TITLE: (-)-Sparteine mediated lithiation of N-BOC-N-p-(methoxyphenyl) allylic amines and conjugate addition to nitroalkenes: scope, reaction pathway, and synthetic applications
AUTHOR(S): Johnson, Timothy Allen
CORPORATE SOURCE: Univ. of Illinois, Urbana, IL, USA
SOURCE: (**2002**) 267 pp. Avail.: UMI, Order No. DA3070342
From: Diss. Abstr. Int., B 2003, 63(11), 5250
DOCUMENT TYPE: Dissertation
LANGUAGE: English
ED Entered STN: 02 Sep 2003
AB Unavailable
CC **21-2** (General **Organic** Chemistry)
IT **Deprotonation**
Lithiation
(stereoselective; scope, reaction pathway, and synthetic applications of the conjugate addition of **organolithium** reagents generated by (-)-sparteine-mediated lithiation of N-BOC-N-p-(methoxyphenyl) allylic amines to nitroalkenes)

L146 ANSWER 16 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 17
ACCESSION NUMBER: 2002:456574 HCAPLUS
DOCUMENT NUMBER: 137:352700
TITLE: Six- and five-membered 3-alkoxy-2-lithiocycloalkenes: new stable non-anionic β-functionalized organolithium compounds
AUTHOR(S): Yus, Miguel; Ramon, Diego J.; Gomez, Inmaculada
CORPORATE SOURCE: Facultad de Ciencias, Departamento de Quimica Organica, Universidad de Alicante, Alicante, E-03080, Spain
SOURCE: Tetrahedron (**2002**), 58(25), 5163-5172
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:352700
ED Entered STN: 18 Jun 2002
AB Naphthalene-catalyzed reductive lithiation of various functionalized chlorocycloalkenes leads to the corresponding non-anionic β-alkoxyfunctionalized organolithium reagents. Their reaction with different **electrophiles**, such as water, aldehydes, ketones and imines, gave the expected products. The diastereoselection in the reaction with aldehydes can be modified by the use of different additives. In the case of using 3-methoxy-2-chlorocyclopentene as starting material, and depending on reaction time, unexpected bicyclopentadiene derivs. were isolated, together with the expected compds.
CC **24-5** (Alicyclic Compounds)
Section cross-reference(s): **29**
IT **Electrophiles**
(effect of reactive **electrophiles** on synthesis of stable nonanionic β-functionalized organolithium compds. based on six- and five-membered 3-alkoxy-2-lithiocycloalkenes)
IT **Lithiation**
Lithiation catalysts
(reductive; synthesis of stable nonanionic β-functionalized **organolithium** compds. based on six- and five-membered 3-alkoxy-2-lithiocycloalkenes via naphthalene-catalyzed reductive lithiation)
IT 96-22-0, Diethyl ketone 98-86-2, Methyl phenyl ketone, reactions

100-52-7, Benzaldehyde, reactions 108-94-1, Cyclohexanone, reactions
120-92-3, Cyclopentanone 630-19-3 1013-88-3, Benzophenone imine
7732-18-5, Water, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(**electrophile**; effect of reactive **electrophiles** on synthesis of stable nonanionic β-functionalized organolithium compds. based on six- and five-membered 3-alkoxy-2-lithiocycloalkenes)
REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 17 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 18
ACCESSION NUMBER: 2002:456541 HCAPLUS
DOCUMENT NUMBER: 137:279224
TITLE: Reductive lithiation of cyclic benzofused ethers: a source of oxygen-functionalized organolithium compounds
AUTHOR(S): Yus, Miguel; Foubelo, Francisco; Ferrandez, Jose V.; Bachki, Abderrazak
CORPORATE SOURCE: Facultad de Ciencias, Departamento de Quimica Organica, Universidad de Alicante, Alicante, E-03080, Spain
SOURCE: Tetrahedron (**2002**), 58(24), 4907-4915
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:279224
ED Entered STN: 18 Jun 2002
AB The reaction of 2,3-dihydrobenzofuran (1) with Li and a catalytic amount of 4,4'-di-tert-butylbiphenyl (DTBB, 5%) in THF at 0° for 1.5 h, followed by addition of an **electrophile** [E+ = H2O, tBuCHO, PhCH2CHO, Ph(CH2)2CHO, PhCHO, furfural, Me2CO, Et2CO, cyclopentanone, cyclohexanone, cyclooctanone, (-)-menthone] in THF at -78° gives, after hydrolysis, diol compds., 2-HOC6H4CH2CH2(E), 3. Some diols 3, e.g., 2-HOC6H4CH2CH2CR1R2OH [R1 = H, R2 = Ph; R1 = R2 = Et; R1R2 = (CH2)n, n = 5, 7] are easily transformed into 2-substituted chromans I under acidic reaction conditions. The reductive lithiation of chroman I (R1 = R2 = H) at 20° for 3 h leads exclusively to the intermediate 8, which is formed through a dearylation process, and isomerizes to the apparently more stable benzylic intermediate 9. The reaction of these intermediates with different **electrophiles** [E+ = tBuCHO, PhCHO, furfural, Me2CO, [CH3(CH2)4]2CO, cyclopentanone, cyclohexanone, (-)-menthone, Ph2CO], at -78° in THF leads, after hydrolysis, to a mixture of regioisomers 2-(E)C6H4(CH2)3OH 10 and PhCH(E)CH2CH2OH 11. The reaction of 2,3-benzofuran (12) with an excess of Li and a catalytic amount of DTBB (5%) in THF at 0° for 45 min leads to dianionic intermediate 13 through a dealkylation process, which after hydrolysis gives 2-vinylphenol 14. In the case of 4H-chromene (15), reductive opening was performed at 20° for 45 min, a mixture of dearylation and dealkylation intermediates 16 and 17, resp., was obtained (2:1 ratio) giving, after hydrolysis, 3-phenylpropanal (18) and 2-allylphenol (19).
CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)
ST benzofused ether cyclic reductive lithiation addn **electrophile**; chroman substituted prepn reductive lithiation ring opening; diol benzofused prepn dehydration cyclization reaction phosphoric acid
IT **Electrophiles**
(addition reaction to lithiated cyclic benzofused ethers)
IT **Lithiation**
(of cyclic benzofused ethers to give oxygen-functionalized

organolithium compds.)
IT Addition reaction
(reductive lithiation of cyclic benzofused ethers to give oxygen-functionalized organolithium compds. and subsequent addition with **electrophiles**)
IT 368859-68-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate formation and reaction with **electrophiles**)
IT 254-03-5, 4H-1-Benzopyran 271-89-6, Benzofuran 493-08-3 496-16-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(sequential reductive lithiation and addition reactions with **electrophiles**)
REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 18 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 19
ACCESSION NUMBER: 2002:149677 HCAPLUS
DOCUMENT NUMBER: 137:63434
TITLE: 'meso-Selective' functionalisation of N-benzyl-α-methylbenzylamine derivatives by α-lithiation and alkylation
AUTHOR(S): Bragg, Ryan A.; Clayden, Jonathan; Menet, Christel J.
CORPORATE SOURCE: Department of Chemistry, University of Manchester, Manchester, M13 9PL, UK
SOURCE: Tetrahedron Letters (**2002**), 43(11), 1955-1959
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:63434
ED Entered STN: 27 Feb 2002
AB Lithiation and methylation of amide and carbamate derivs. of α-methylbenzylamine proceeds with high diastereoselectivity in favor of meso bis-α-methylbenzylamine derivs. Carboxylation of the intermediate organolithium is also diastereoselective, and with N-Boc p-methoxy-α-methylbenzylamine as starting material, oxidative cleavage provides a new asym. route to phenylglycine. Other **electrophiles** give a range of stereochem. outcomes, apparently depending on the stereospecificity of their reactions with a pair of diastereoisomeric organolithiums of low to moderate configurational stability.
CC **34-2** (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): **21**
IT Asymmetric synthesis and induction
Carboxylation
Lithiation
Methylation
Stereochemistry
Transmetalation
(preparation of phenylglycines via diastereoselective reactions of **organolithium** methylbenzylamine derivs.)
REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 19 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 20
ACCESSION NUMBER: 2002:114418 HCAPLUS
DOCUMENT NUMBER: 136:309813
TITLE: Dearomatizing Annelation of Five-Membered Rings to

Naphthalenes by Organolithium Cyclization
AUTHOR(S): Clayden, Jonathan; Kenworthy, Martin N.
CORPORATE SOURCE: Department of Chemistry, University of Manchester, Manchester, M13 9PL, UK
SOURCE: Organic Letters (**2002**), 4(5), 787-790
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:309813
ED Entered STN: 13 Feb 2002
AB γ-Lithiopropylnaphthalenes and their oxa- and aza-tethered analogs cyclize by nucleophilic addition of the organolithium to the naphthalene ring. The resulting benzyllithiums react stereoselectively with **electrophiles** to give dearomatized tricyclic products with structural similarity to the arylnaphthalene lignans.
CC **27-7** (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 26
ST arylnaphthalene lignan analog naphthofuran prepn; benzindanone prepn; lithiopropylnaphthalene cyclization dearomatization **electrophile** substitution
IT Cyclization
Lithiation
Substitution reaction, **electrophilic**
(dearomatizing annelation of five-membered rings to naphthalenes by **organolithium** cyclization)
REFERENCE COUNT: 74 THERE ARE 74 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 20 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 21
ACCESSION NUMBER: 2002:266004 HCAPLUS
DOCUMENT NUMBER: 137:154719
TITLE: Efficient mono- and dilithiation of 2-bromo-1,1-diphenylethene with n-butyllithium/tetramethylethylenediamine
AUTHOR(S): Korneev, Sergei M.; Kaufmann, Dieter E.
CORPORATE SOURCE: Institute of Chemistry, St. Petersburg State University, St. Petersburg, 198504, Russia
SOURCE: Synthesis (**2002**), (4), 491-496
CODEN: SYNTBF; ISSN: 0039-7881
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:154719
ED Entered STN: 10 Apr 2002
AB Lithiation of 2-bromo-1,1-diphenylethene with BuLi or Me3CLi-TMEDA in pentane at -100 °C effects a halogen-lithium exchange to give 2-lithio-1,1-diphenylethene exclusively, which reacts with **electrophiles** to provide 2-substituted-1,1-diphenylethenes in high yields. Further lithiation of the monolithium derivative with BuLi-TMEDA results in the direct ortho-lithiation of the Z-located benzene ring to give dilithium derivative which forms disubstituted ethenes or heterocycles on treatment with **electrophiles.** Me3CLi-TMEDA is ineffective for the second lithiation step.
CC **25-3** (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
IT **Lithiation**
(efficient mono- and dilithiation of 2-bromo-1,1-diphenylethene with **butyllithium**-tetramethylethylenediamine)
REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 21 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 22
ACCESSION NUMBER: 2002:219037 HCAPLUS
DOCUMENT NUMBER: 137:6234
TITLE: Enhanced leaving ability of methoxy group and retarded **deprotonation** on the carbon atom linked to the 1-position of 8-phosphino- or 8-amino-naphthalene
AUTHOR(S): Toshimitsu, Akio; Saeki, Tomoyuki; Tamao, Kohei
CORPORATE SOURCE: Institute for Chemical Research, Kyoto University, Kyoto, 611-0011, Japan
SOURCE: Chemistry Letters (**2002**), (3), 278-279
CODEN: CMLTAG; ISSN: 0366-7022
PUBLISHER: Chemical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:6234
ED Entered STN: 22 Mar 2002
AB In an attempt to lithiate a benzylic C, a benzyl Me ether bearing an 8-phosphino-1-naphthyl group at the benzylic C (I) is treated with t-butyllithium to gave a quite unexpected compound, e.g., II, arising not from **deprotonation** but from the removal of the methoxy group accompanied by the introduction of two t-Bu groups into the naphthalene ring.
CC **29-7** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): 75
ST selective **deprotonation** benzyl carbon lithiation benzylmethylether contg phosphinonaphthyl group; methoxy group enhanced leaving ability lithiation benzylmethylether contg phosphinonaphthyl; crystal structure phosphino methylene tertbutyl tetrahydronaphthalene; mol structure phosphino methylene tertbutyl tetrahydronaphthalene
IT Methoxy group
(enhanced leaving ability of methoxy group and retarded **deprotonation** on the benzyl carbon atom of benzyl Me ether containing of phosphino- or aminonaphthyl group upon reaction with organolithium reagent)
IT Ethers, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(enhanced leaving ability of methoxy group and retarded **deprotonation** on the benzyl carbon atom of benzyl Me ether containing of phosphino- or aminonaphthyl group upon reaction with organolithium reagent)
IT **Lithiation**
(regioselective; enhanced leaving ability of methoxy group and retarded **deprotonation** on the benzyl carbon atom of benzyl Me ether containing of phosphino- or aminonaphthyl group upon reaction with **organolithium** reagent)
IT **Deprotonation**
(retarded; enhanced leaving ability of methoxy group and retarded **deprotonation** on the benzyl carbon atom of benzyl Me ether containing of phosphino- or aminonaphthyl group upon reaction with organolithium reagent)
IT 403804-06-8 433710-09-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(tert-butyllithium-promoted **deprotonation** reaction)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 22 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 23

ACCESSION NUMBER: 2002:175873 HCAPLUS
DOCUMENT NUMBER: 137:109320
TITLE: Metalated 1,3-azaphospholes: synthesis of lithium-1,3-benzazaphospholides and reactivity towards organoelement and organometal halides
AUTHOR(S): Surana, Anushka; Singh, Shreeyukta; Bansal, Raj Kumar; Peulecke, Normen; Spannenberg, Anke; Heinicke, Joachim
CORPORATE SOURCE: Ernst-Moritz-Arndt-Universitat Greifswald, Institut fur Chemie und Biochemie, Greifswald, D-17487, Germany
SOURCE: Journal of Organometallic Chemistry (**2002**), 646(1-2), 113-124
CODEN: JORCAI; ISSN: 0022-328X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:109320
ED Entered STN: 12 Mar 2002
AB Metalation of benzazaphospholes I (R = H, R1 = Me 1a; R = R1 = Me 1b, R = H, R1 = Ph 1c, R = H, R1 = Me3C 1d; R = Me, R1 = Ph 1e) with t-BuLi provided the ambident anions 1a-eLi in high selectivity. A crystal structure anal. of 1bLi·3THF reveals monomers and coordination of Li at N. The tungsten pentacarbonyl complexes [1][W(CO)5] (2a-e, resp.) also react preferably at N as shown by the reaction of 2a and 2d with t-BuLi. Addition at the P:C bond is a minor process in the case of 2a. Compds. 1a,cLi as well as 2dLi react with alkyl halides at P to give the corresponding 3-alkyl-1,3-benzazaphospholes or the resp. W(CO)5 complex. Even acetyl and pivaloyl chloride attack 1eLi at P affording the P-acyl derivs. II (R2 = Me 5e, CMe3 6e). Silylation can occur at N or P depending on steric and electronic effects exerted by the substituent in position 2. The different effect of 2-t-Bu groups on the steric hindrance at N and P is illustrated by the mol. geometry of 1d determined by crystal structure anal. Soft organometallic halides such as Me3SnCl, CpFe(CO)2I and CpW(CO)3Cl react with 1Li preferably at P, affording stannyl or monomer organo-transition metal derivs. The products were characterized by multinuclear NMR data of all new compds.
CC **29-7** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): 75, 78
ST benzazaphosphole **lithiation**; benzazaphospholide lithium prepn substitution alkylation acylation silylation; organometallic soft **electrophile** reaction lithium benzazaphospholide; crystal structure benzazaphospholide lithium THF prepn; mol structure benzazaphospholide lithium THF; tungsten pentacarbonyl complex lithium benzazaphospholide prepn reactivity
IT **Lithiation**
(of benzazaphospholes)
IT Crystal structure
Molecular structure
(of **lithiated** benzazaphospholide THF complex)
IT Acylation
(of **lithiated** benzazaphospholides)
IT Substitution reaction
(of **lithiated** benzazaphospholides and their tungsten pentacarbonyl complexes)
IT Substituent effects
(on silylation of **lithiated** benzazaphospholides)
IT 3282-30-2, Pivaloyl chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation by, of **lithiated** benzazaphospholide)
IT 112204-64-5

RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(crystal structure; **lithiation** and subsequent reactions with **electrophiles**)

IT 442692-44-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lithiation** and subsequent reactions of)

IT 67405-19-0 67405-20-3 404578-27-4 404578-29-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lithiation** and subsequent reactions with **electrophiles**)

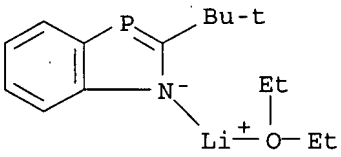
IT **442692-40-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and methylation or reaction with soft organometallic **electrophile**)

IT 1066-45-1, Chloro(trimethyl)stannane 12107-04-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with **lithiated** benzazaphospholide)

IT 12078-28-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with **lithiated** benzazaphospholides)

IT **442692-40-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and methylation or reaction with soft organometallic **electrophile**)

RN 442692-40-2 HCAPLUS
CN Lithium, [2-(1,1-dimethylethyl)-1H-1,3-benzazaphospholato-κN1][1,1'-oxybis[ethane]]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 23 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 24
ACCESSION NUMBER: 2001:749767 HCAPLUS
DOCUMENT NUMBER: 136:69855
TITLE: Direct C-3 lithiation of 1-(triisopropylsilyl)indole
AUTHOR(S): Matsuzono, M.; Fukuda, T.; Iwao, M.
CORPORATE SOURCE: Faculty of Engineering, Department of Applied Chemistry, Nagasaki University, Nagasaki, 852-8521, Japan
SOURCE: Tetrahedron Letters (**2001**), 42(43), 7621-7623
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:69855
ED Entered STN: 15 Oct 2001
AB 1-(Triisopropylsilyl)indole can be directly lithiated at 3-position with tert-BuLi-TMEDA in hexane at 0°C for 3 h. The generated lithio species is reacted with a variety of **electrophiles** to give

3-substituted 1-(triisopropylsilyl)indoles in good yields. Thus, lithiation of 1-(triisopropylsilyl)indole with tert-BuLi-TMEDA in hexane at 0°C for 3 h followed by treatment with Me3SiCl gave 84% 3-(trimethylsilyl)-1-(triisopropylsilyl)indole.

CC **29-6** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): 27

ST lithiation isopropylsilyl indole; lithiated triisopropylsilyl indole formation reaction **electrophile**

IT **Lithiation**
(of (triisopropylsilyl)indole with tert-**butyllithium** in presence of TMEDA)

IT **Electrophiles**
(reaction with lithiated (triisopropylsilyl)indole)

IT 123191-00-4, 1-(Triisopropylsilyl)indole
RL: RCT (Reactant); RACT (Reactant or reagent)
(direct lithiation with tert-butyllithium in TMEDA and sequential reaction with **electrophiles**)

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 24 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 25
ACCESSION NUMBER: 2001:94741 HCAPLUS
DOCUMENT NUMBER: 134:295717
TITLE: First regioselective C-2 lithiation of 3- and 4-chloropyridines
AUTHOR(S): Choppin, Sabine; Gros, Philippe; Fort, Yves
CORPORATE SOURCE: Synthese Organique et Reactivite, UMR CNRS-UHP 7565, Faculte des Sciences, Universite Henri Poincare Nancy I, Vandoeuvre-Les-Nancy, 54506, Fr.
SOURCE: European Journal of Organic Chemistry (**2001**), (3), 603-606
CODEN: EJOCFK; ISSN: 1434-193X
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:295717
ED Entered STN: 08 Feb 2001

AB Butyllithium and 2-(dimethylamino)ethanol together promote the clean and regioselective C2 lithiation of 3- and 4-chloropyridines, while other reagents such as LDA or BuLi/TMEDA lead to classical ortho lithiation products or mixts. of regioisomers. The method was successfully applied to the preparation of various reactive 2,3- and 2,4-disubstituted pyridines. E.g., a solution containing 3 equivalent 2-(dimethylamino)ethanol (relative to 3-chloropyridine) in hexane was treated with 6 equivalent of BuLi at -5° and stirred for 30 min.; the solution was cooled to -60° and a solution of 3-chloropyridine in hexane was added dropwise and stirred for 1 h; 4 equivalent of di-Me disulfide in hexane was added and the mixture warmed to room temperature over 1 h to give, after workup, 2-(methylthio)-3-chloropyridine in 83% isolated yield.

CC **27-16** (Heterocyclic Compounds (One Hetero Atom))

IT Regiochemistry
(preparation of disubstituted chloropyridine derivs. by regioselective lithiation of chloropyridines with butyllithium and dimethylaminoethanol followed by substitution with **electrophiles**)

IT **Lithiation**
(regioselective; preparation of disubstituted chloropyridine derivs. by regioselective lithiation of chloropyridines with **butyllithium** and dimethylaminoethanol followed by substitution with

electrophiles)
IT 110-18-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(less optimal additive in the preparation of disubstituted chloropyridine derivs. by regioselective lithiation of chloropyridines followed by substitution with **electrophiles**)
IT 4111-54-0, Lithium diisopropylamide
RL: RCT (Reactant); RACT (Reactant or reagent)
(less optimal base in the preparation of disubstituted chloropyridine derivs. by regioselective lithiation of chloropyridines followed by substitution with **electrophiles**)
IT 40273-59-4P
RL: BYP (Byproduct); PREP (Preparation)
(preparation of disubstituted chloropyridine derivs. by regioselective lithiation of chloropyridines with butyllithium and dimethylaminoethanol followed by substitution with **electrophiles**)
IT 108-01-0, 2-(Dimethylamino)ethanol 109-72-8, Butyllithium, reactions 611-74-5, N,N-Dimethylbenzamide 626-60-8, 3-Chloropyridine 626-61-9, 4-Chloropyridine 630-19-3, Pivalaldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of disubstituted chloropyridine derivs. by regioselective lithiation of chloropyridines with butyllithium and dimethylaminoethanol followed by substitution with **electrophiles**)
IT 2402-77-9P, 2,3-Dichloropyridine 14265-58-8P 22918-01-0P 22918-03-2P 26452-80-2P, 2,4-Dichloropyridine 77332-78-6P 77332-85-5P 77332-89-9P 79698-47-8P 96424-68-9P 98626-97-2P 139585-50-5P 180748-36-1P 206437-85-6P 334542-38-0P 334542-42-6P 334542-44-8P 334542-45-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of disubstituted chloropyridine derivs. by regioselective lithiation of chloropyridines with butyllithium and dimethylaminoethanol followed by substitution with **electrophiles**)
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 25 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 26
ACCESSION NUMBER: 2001:303092 HCAPLUS
DOCUMENT NUMBER: 137:232164
TITLE: Unusual cleavage of the enol silane C-O bond: transformation of 2-silyloxy-1,3-diene into 1,3-dienyl-2-zirconium compounds and their cross-coupling reactions. [Erratum to document cited in CA134:265886]
AUTHOR(S): Ganchegui, Benjamin; Bertus, Philippe; Szymoniak, Jan
CORPORATE SOURCE: Reactions Selectives et Applications, CNRS and Universite de Reims, Reims, 51687, Fr.
SOURCE: Synlett (**2001**), (4), 564
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 29 Apr 2001
AB The corrected graphical abstract is given.
CC **21-2** (General **Organic** Chemistry)
ST erratum enol silyl ether zirconocene carbon oxygen bond cleavage; enol silyl ether zirconocene carbon oxygen bond cleavage erratum; methylenepropenylzirconium **electrophile** substitution erratum;

dienylzirconium cross coupling erratum
IT **Cross-coupling reaction**
(preparation of siloxy-diene-derived dienyl-zirconiums by **carbon-oxygen bond** cleavage of enol silyl ether and their cross-coupling reaction (Erratum))

L146 ANSWER 26 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 27
ACCESSION NUMBER: 2001:646325 HCAPLUS
DOCUMENT NUMBER: 135:371820
TITLE: Synthesis, characterization, and properties of some cyclopentadienyl molybdenum nitrosyl benzyl complexes
AUTHOR(S): Legzdins, Peter; Smith, Kevin M.; Rettig, Steven J.
CORPORATE SOURCE: Dep. Chem., Univ. British Columbia, Vancouver, V6T 1Z1, Can.
SOURCE: Canadian Journal of Chemistry (**2001**), 79(5/6), 502-509
CODEN: CJCHAG; ISSN: 0008-4042
PUBLISHER: National Research Council of Canada
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:371820
ED Entered STN: 05 Sep 2001
AB Reaction of CpMo(NO)(CH2Ph)Cl with Me2Mg, Ph2Mg, or PhCCLi reagents in THF affords the corresponding alkyl, aryl, or alkynyl CpMo(NO)(CH2Ph)R (R = hydrocarbyl) complexes as orange powders in good yields. Unlike related 16-electron CpMo(NO)R2 complexes, these 18-electron species exhibit good thermal stability due to their η2-benzyl-Mo interactions. Treatment of CpMo(NO)(CH2Ph)Cl with Na(DME)Cp provides dark green Cp2Mo(NO)(CH2Ph), whose solid-state mol. structure was established by a single-crystal x-ray crystallog. anal. The two Cp rings display different binding modes to the Mo atom, while the benzyl ligand is coordinated to the metal center in an η1 fashion. The triflate complex, CpMo(NO)(CH2Ph)(OTf), was obtained by addition of AgOTf to the benzyl chloride precursor. The covalent Mo-OTf bond in this compound can be disrupted by the addition of Lewis bases (L) such as PPh3 or pyridine, leading to the corresponding [CpMo(NO)(CH2Ph)(L)][OTf] have not yet been successful.
CC **29-11** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): 75
IT **Coupling reaction**
(of **alkyllithium** and Grignard reagents with (benzyl)(chloro)(cyclopentadienyl)(nitrosyl)molybdenum)
IT 374635-61-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and attempted **deprotonation** of)
REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 27 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 28
ACCESSION NUMBER: 2001:61278 HCAPLUS
DOCUMENT NUMBER: 134:265886
TITLE: Unusual cleavage of the enol silane C-O bond: transformation of 2-silyloxy-1,3-dienes into 1,3-dienyl-2-zirconium compounds and their cross-coupling reactions
AUTHOR(S): Ganchegui, Benjamin; Bertus, Philippe; Szymoniak, Jan
CORPORATE SOURCE: Reactions Selectives et Applications, CNRS and Universite de Reims, Reims, 51687, Fr.
SOURCE: Synlett (**2001**), (1), 123-125

CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:265886
ED Entered STN: 25 Jan 2001
AB Aryl enol silyl ethers and 2-silyloxy-1,3-dienes react with zirconocene to give alkenylzirconium, and novel 1-methylene-2-propenylzirconium compds. which can be used as 2-dienylation reagents. Thus, one-pot coupling of 4-phenyl-1,3-butadienyl-2-zirconocene with a range of **electrophiles** including aryl, alkynyl, allyl halides, bromine, iodine, and a Michael acceptor occurs regioselectively at the C(2) position in the presence of Pd or Cu catalysts.
CC **21-2** (General **Organic** Chemistry)
ST enol silyl ether zirconocene carbon oxygen bond cleavage; methylenepropenylzirconium **electrophile** substitution; dienylzirconium cross coupling
IT **Cross-coupling reaction**
(preparation of siloxy-diene-derived dienyl-zirconiums by **carbon-oxygen bond** cleavage of enol silyl ether and their cross-coupling reaction)
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 28 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 29
ACCESSION NUMBER: 2000:337126 HCAPLUS
DOCUMENT NUMBER: 133:135497
TITLE: Structural modification of carbohydrates via functionalized organolithium intermediates: EPC preparation of branched-chain functionalized sugars
AUTHOR(S): Soler, Tatiana; Bachki, Abderrazak; Falvello, Larry R.; Foubelo, Francisco; Yus, Miguel
CORPORATE SOURCE: Departamento de Quimica Organica, Facultad de Ciencias, Universidad de Alicante, Alicante, 03080, Spain
SOURCE: Tetrahedron: Asymmetry (**2000**), 11(2), 493-517
CODEN: TASYE3; ISSN: 0957-4166
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:135497
ED Entered STN: 21 May 2000
AB The reductive opening of epoxides, e.g. I (X = CH2, RR1 = O), derived from D-glucose and D-fructose using lithium and a catalytic amount of 4,4'-di-tert-butylbiphenyl (DTBB) in THF at -78°C allows the formation of β-oxido organolithium derivs. which, by reaction with different **electrophiles** [H2O, D2O, Me3SiCl, PhCHO, Me2CO, Et2CO, (CH2)5CO, CO2] at the same temperature yields, after hydrolysis with water, the expected branched-chain functionalized carbohydrates, e.g. I (X = CH2, R = OH, R1 = Me). An alternative route for compound 11, derived from the epoxide I (X = CH2, RR1 = O), consists of the **deprotonation** of the chlorohydrin I (R = OH, R1 = Cl) followed by the same protocol of lithiation-reaction with an **electrophile.** Finally, the addition of the dianions (resulting from the DTBB-catalyzed lithiation of phthalan and isochroman) to the ketones, e.g. I (X = bond, RR1 = O), derived from D-glucose and D-fructose, allowed the stereoselective functionalization at the 3-position of the sugars, giving the corresponding diols, which can cyclize to the corresponding heterocycles, e.g. II, under Mitsunobu reaction conditions.

CC 33-3 (Carbohydrates)
IT **Lithiation**
Lithiation
(catalysts; structural modification of carbohydrates via functionalized **organolithium** intermediates in preparation of branched-chain functionalized glycosides)
IT Addition reaction
Lithiation
(structural modification of carbohydrates via functionalized **organolithium** intermediates in preparation of branched-chain functionalized glycosides)
REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 29 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 30
ACCESSION NUMBER: 1999:569957 HCAPLUS
DOCUMENT NUMBER: 131:350838
TITLE: Generation of allylic and benzylic organolithium reagents from the corresponding ester, amide, carbonate, carbamate and urea derivatives
AUTHOR(S): Alonso, Emma; Guijarro, David; Martinez, Pedro; Ramon, Diego J.; Yus, Miguel
CORPORATE SOURCE: Departamento de Quimica Organica, Facultad de Ciencias, Universidad de Alicante, Alicante, 03080, Spain
SOURCE: Tetrahedron (**1999**), 55(36), 11027-11038
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:350838
ED Entered STN: 09 Sep 1999
AB The reaction of different allylic and benzylic non-enolizable esters or amides, carbonates, carbamates, and ureas with an excess of lithium powder and a catalytic amount of naphthalene (10%) in the presence of an **electrophile** [iPrCHO, tBuCHO, PhCHO, Me2CO, Et2CO, (CH2)5CO, Ph2CO, Me3SiCl] in THF at different temps. (-78, -30 or 0°) leads, after hydrolysis with water, to the corresponding allylated or benzylated products.
CC 21-2 (General **Organic** Chemistry)
IT **Lithiation**
(in situ; preparation of allylic and benzylic compds. from in-situ **organolithium** esters and amides and carbonates and carbamates and ureas under Barbier reaction conditions)
IT 67-64-1, 2-Propanone, reactions 75-77-4, reactions 78-84-2, Isobutyral 96-22-0, 3-Pentanone 100-52-7, Benzaldehyde, reactions 108-94-1, Cyclohexanone, reactions 119-61-9, Benzophenone, reactions 590-86-3, Isopentanal
RL: RCT (Reactant); RACT (Reactant or reagent)
(**electrophile**; preparation of allylic and benzylic compds. from in-situ organolithium esters and amides and carbonates and carbamates and ureas under Barbier reaction conditions)
REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 30 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 31
ACCESSION NUMBER: 1999:84978 HCAPLUS
DOCUMENT NUMBER: 130:237835
TITLE: Asymmetric Syntheses of Derivatives of β- and γ-Aryl and α-Alkyl Amino Acids Using

n-BuLi/(-)-Sparteine
AUTHOR(S): Kim, Bong Jin; Park, Yong Sun; Beak, Peter
CORPORATE SOURCE: Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, USA
SOURCE: Journal of Organic Chemistry (**1999**), 64(5), 1705-1708
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 130:237835
ED Entered STN: 10 Feb 1999
AB A lithiation-substitution sequence using BuLi/(-)-sparteine was used in the enantioselective syntheses of 4-phenyl-β-lactams, 3-phenyl-γ-lactams, and an α-alkyl amino acid. Thus, esterification-deprotection of β-amino acid I (Ar = 4-MeOC6H4; Boc = Me3CO2C), followed by cyclization with Me3CMgCl gave β-lactam II (R = H). **Deprotonation** of II (R = H) with LDA and reaction with **electrophiles** gave substituted derivs. II (R = Et, Ac, CHPhOH). Treatment of cinnamylamine ArN(Boc)CH2CH:CHPh (III) with BuLi/(-)-sparteine and CO2, followed by hydrogenation and esterification gave (S)-γ-amino ester IV. Lithiation of III with BuLi/(-)-sparteine followed by ClCO2Me, subsequent hydrogenation and Boc group removal gave enantiomeric (R)-γ-amino ester V. Both IV and V could be cyclized to the corresponding 3-phenyl-γ-butyrolactams by treatment with Me3CMgCl and removal of the p-methoxyphenyl group with ceric ammonium nitrate. Finally, treatment of benzylamine ArN(Boc)CH2Ar with BuLi/(-)-sparteine and Me triflate, subsequent p-methoxyphenyl group removal, oxidative cleavage, and esterification gave Boc-L-Ala-OMe.
CC **34-2** (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 27
IT **Lithiation**
(stereoselective; asym. syntheses of β- and γ-aryl and α-alkyl amino acid derivs. using **butyllithium** and sparteine)
REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 31 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 32
ACCESSION NUMBER: 1998:454918 HCAPLUS
DOCUMENT NUMBER: 129:175672
TITLE: Relative anion stabilities and transition state energies regarding vinylic vs. allylic **deprotonation** of cyclic vinyl ethers by **organolithium** reagents: an ab initio study
AUTHOR(S): Power, Trevor D.; Sebastian, John F.
CORPORATE SOURCE: Department of Chemistry and Biochemistry, Miami University, Oxford, OH, 45056, USA
SOURCE: Tetrahedron (**1998**), 54(29), 8371-8392
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 22 Jul 1998
AB The relative energies of allylic and vinylic anions of several vinyl ethers were determined by ab initio calcns. at the Hartree-Fock and 2nd-order Moller-Plesset perturbation theory (single point) levels using basis set 6-31++G(d,p) in an attempt at explaining exptl. results concerning allylic vs. vinylic **deprotonation.** A general trend with cyclic vinyl ethers was discovered where the stability of the allyl anion over the

vinyl anion in terms of ring size is 8 = 7 > 6 > 5 ≈ 4. In general, optimized vinyl anions exhibit a vinyl angle compression whereas optimized allyl anions exhibit an allyl angle expansion. Addnl., transition state structures were examined that invoke a pre-equilibrium complexation of Li to the electron rich vinyl ether oxygens prior to the **formation** of the **deprotonation** products. These transition states are suggestive of multi-center processes, precluding the **formation** of free ions during these **deprotonation** reactions. In many cases, the stabilization energy of the appropriate transition state is in agreement with the exptl. observed product.

CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): **22**

ST transition state energy vinylic ether anion; ether vinylic allylic anion stability MO; Hartree Fock calcn **deprotonation** vinyl ether; MP2 calcn **deprotonation** vinylic allylic ether; **deprotonation** vinyl allylic ether **organolithium** MO

IT Carbanions
Ethers, properties
RL: PRP (Properties)
(allyl; an ab initio study of relative anion stabilities and transition state energies regarding vinylic vs. allylic **deprotonation** of cyclic vinyl ethers by **organolithium** reagents)

IT Anions
Deprotonation
HF MO (molecular orbital)
Molecular orbital methods
Moller-Plesset perturbation theory
Total energy
Transition state structure
(an ab initio study of relative anion stabilities and transition state energies regarding vinylic vs. allylic **deprotonation** of cyclic vinyl ethers by **organolithium** reagents)

IT Ethers, properties
RL: PRP (Properties)
(an ab initio study of relative anion stabilities and transition state energies regarding vinylic vs. allylic **deprotonation** of cyclic vinyl ethers by **organolithium** reagents)

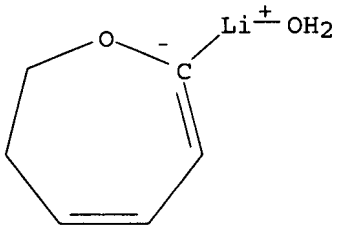
IT Ethers, properties
RL: PRP (Properties)
(vinyl; an ab initio study of relative anion stabilities and transition state energies regarding vinylic vs. allylic **deprotonation** of cyclic vinyl ethers by **organolithium** reagents)

IT 40854-64-6 41523-67-5 60211-42-9 60211-45-2 66262-06-4
66262-07-5 70113-61-0 70113-64-3 76501-18-3 83352-72-1
100791-90-0 125081-53-0, properties 186750-40-3 186750-41-4
186750-42-5 **186750-43-6** **186750-44-7**
186750-45-8 186848-72-6 186848-74-8 187030-82-6
211574-61-7 211574-62-8 211574-63-9 211574-64-0
211574-65-1 211574-66-2 211574-67-3 **211574-68-4**
211574-69-5 **211574-70-8** **211574-71-9**
211574-72-0 **211574-73-1** 211574-74-2, properties
211574-75-3 211574-76-4 **211574-77-5** **211574-78-6**
211574-79-7 211574-80-0 211574-81-1 211574-82-2 211574-83-3
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(ab initio study of relative anion stabilities regarding vinylic vs. allylic **deprotonation** of cyclic vinyl ethers by **organolithium** reagents)

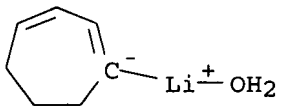
IT **186750-42-5** **186750-43-6** **186750-44-7**

186750-45-8 211574-61-7 211574-65-1
211574-68-4 211574-69-5 211574-70-8 21157
4-71-9 211574-72-0 211574-73-1
211574-77-5 211574-78-6
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(ab initio study of relative anion stabilities regarding vinylic vs. allylic **deprotonation** of cyclic vinyl ethers by **organolithium** reagents)

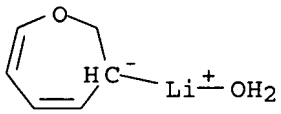
RN 186750-42-5 HCAPLUS
CN Lithium, aqua(6,7-dihydro-2-oxepinyl)- (9CI) (CA INDEX NAME)



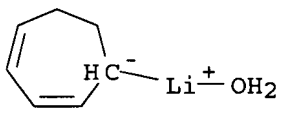
RN 186750-43-6 HCAPLUS
CN Lithium, aqua-1,3-cycloheptadien-1-yl- (9CI) (CA INDEX NAME)



RN 186750-44-7 HCAPLUS
CN Lithium, aqua(2,3-dihydro-3-oxepinyl)- (9CI) (CA INDEX NAME)

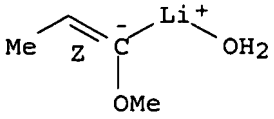


RN 186750-45-8 HCAPLUS
CN Lithium, aqua-2,4-cycloheptadien-1-yl- (9CI) (CA INDEX NAME)



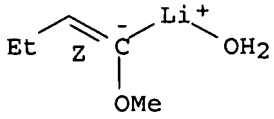
RN 211574-61-7 HCAPLUS
CN Lithium, aqua[(1Z)-1-methoxy-1-propenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

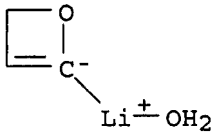


RN 211574-65-1 HCAPLUS
CN Lithium, aqua[(1Z)-1-methoxy-1-butenyl]- (9CI) (CA INDEX NAME)

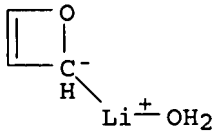
Double bond geometry as shown.



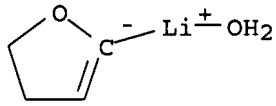
RN 211574-68-4 HCAPLUS
CN Lithium, aqua-2H-oxet-4-yl- (9CI) (CA INDEX NAME)



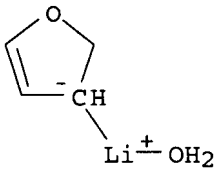
RN 211574-69-5 HCAPLUS
CN Lithium, aqua-2H-oxet-2-yl- (9CI) (CA INDEX NAME)



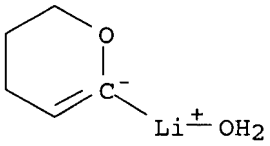
RN 211574-70-8 HCAPLUS
CN Lithium, aqua(4,5-dihydro-2-furanyl)- (9CI) (CA INDEX NAME)



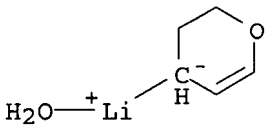
RN 211574-71-9 HCAPLUS
CN Lithium, aqua(2,3-dihydro-3-furanyl)- (9CI) (CA INDEX NAME)



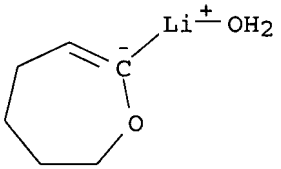
RN 211574-72-0 HCAPLUS
CN Lithium, aqua(3,4-dihydro-2H-pyran-6-yl)- (9CI) (CA INDEX NAME)



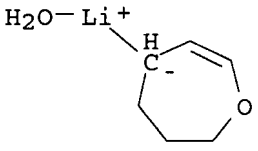
RN 211574-73-1 HCAPLUS
CN Lithium, aqua(3,4-dihydro-2H-pyran-4-yl)- (9CI) (CA INDEX NAME)



RN 211574-77-5 HCAPLUS
CN Lithium, aqua(4,5,6,7-tetrahydro-2-oxepinyl)- (9CI) (CA INDEX NAME)



RN 211574-78-6 HCAPLUS
CN Lithium, aqua(4,5,6,7-tetrahydro-4-oxepinyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 32 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 33
ACCESSION NUMBER: 1998:520482 HCAPLUS
DOCUMENT NUMBER: 129:260103

TITLE: Anion translocation in organolithiums: a mechanism for the lithiation and cyclization of tertiary naphthamides
AUTHOR(S): Ahmed, Anjum; Clayden, Jonathan; Rowley, Michael
CORPORATE SOURCE: Dep. of Chemistry, University of Manchester, Manchester, M13 9PL, UK
SOURCE: Tetrahedron Letters (**1998**), 39(34), 6103-6106
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 21 Aug 1998
AB Deuterium labeling shows that an intramol. proton transfer ("anion translocation") is a key step in the mechanism leading to an α-lithiated tertiary naphthamide and thence to the products of anionic cyclization. The kinetic isotope effect means that proton transfer from the ortho position can become the sole mechanism for α-lithiation, though for undeuterated amides a parallel mechanism also operates in which lithiation occurs directly at the position α to nitrogen.
CC **22-12** (Physical **Organic** Chemistry)
Section cross-reference(s): 27, **29**
IT Anions
Cyclization
Cyclization catalysts
Deprotonation
Isomerization
(anion translocation in organolithiums and mechanism for lithiation and cyclization of tertiary naphthamides)
IT **Lithiation**
Lithiation
(kinetics; anion translocation in **organolithiums** and mechanism for lithiation and cyclization of tertiary naphthamides)
IT **Lithiation**
(trans-; anion translocation in **organolithiums** and mechanism for lithiation and cyclization of tertiary naphthamides)
REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 33 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 34
ACCESSION NUMBER: 1999:24332 HCAPLUS
DOCUMENT NUMBER: 130:153882
TITLE: Branched-chain functionalized carbohydrates via β-functionalized organolithium compounds
AUTHOR(S): Soler, Tatiana; Bachki, Abderrazak; Falvello, Larry R.; Foubelo, Francisco; Yus, Miguel
CORPORATE SOURCE: Departamento de Quimica Organica, Facultad de Ciencias, Universidad de Alicante, Alicante, 03080, Spain
SOURCE: Tetrahedron: Asymmetry (**1998**), 9(22), 3939-3943
CODEN: TASYE3; ISSN: 0957-4166
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 13 Jan 1999
AB The reaction of an epoxysugar with an excess of lithium powder and a catalytic amount of DTBB (5 mol%) in THF at -78°C leads to the formation of the corresponding β-oxido functionalized organolithium

intermediates, which by treatment with different **electrophiles** [H2O, D2O, Me3SiCl, PhCHO, Me2CO, (CH2)5CO] at -78°C to room temperature affords, after hydrolysis with water, the expected enantiomerically pure compds. Starting from an epimeric epoxide and following the same procedure, using water as **electrophile**, the reduced compound was isolated, the corresponding intermediate having been involved in the process.

CC **33-3** (Carbohydrates)

IT Crystal structure
Lithiation
(preparation of branched-chain functionalized carbohydrates via functionalized **organolithium** compds.)

REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 34 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 35

ACCESSION NUMBER: 1998:250350 HCAPLUS
DOCUMENT NUMBER: 129:4672
TITLE: Generation of aziridinyllithiums from sulfinylaziridines by the ligand exchange reaction of sulfoxides with tert-butyllithium: their properties and an application to asymmetric synthesis of α-dialkylamino acid ester
AUTHOR(S): Satoh, Tsuyoshi; Ozawa, Masaki; Takano, Koji; Kudo, Masabumi
CORPORATE SOURCE: Department of Chemistry, Faculty of Sciences, Science University of Tokyo, Tokyo, 162, Japan
SOURCE: Tetrahedron Letters (**1998**), 39(16), 2345-2348
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:4672
ED Entered STN: 02 May 1998

AB Aziridinyllithiums I [X = Li, R = Me, PhCH2CH2, Me(CH2)9] were generated from sulfinylaziridines [I, X = S(O)C6H4Me-4 (II)] by the ligand exchange reaction of the sulfoxide with tert-butyllithium. The aziridinyllithiums were stable in THF at <-30° and reacted with several **electrophiles** such as carbonyl compds. II (R = Me) reacted with t-BuLi/t-BuMgCl/THF followed by CD3OD to give 96% yield of labeled compound I (X = D, R = Me). Optically active I (X = CO2Et, R = Me) was prepared by the addition of (Sc,Rs)-CH3CHClS(O)C6H4Me-4 to PhCH:NPh to give optically active II (R = Me) which in turn was treated with t-BuLi/t-BuMgBr and ClCO2Et. Palladium-catalyzed hydrogenation of optically active I (X = CO2Et, R = Me) resulted in regioselective ring cleavage to give optically active α-dialkylamino acid ester, (S)-PhNHC(CH3)(CH2Ph)CO2Et.

CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): 27

ST aziridinyllithium prepn reaction **electrophile**; sulfinylaziridine lithiation tertbutyllithium; asym synthesis alkylamino acid ester

IT **Lithiation**
(of sulfinylaziridines with tert-**butyllithium** to give aziridinyllithiums and asym. synthesis of α-dialkylamino acid ester)

IT **Electrophiles**
(reactions with aziridinyllithiums)

IT 119487-86-4
RL: RCT (Reactant); RACT (Reactant or reagent)

(sequential lithiation and reaction with **electrophiles**)
REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

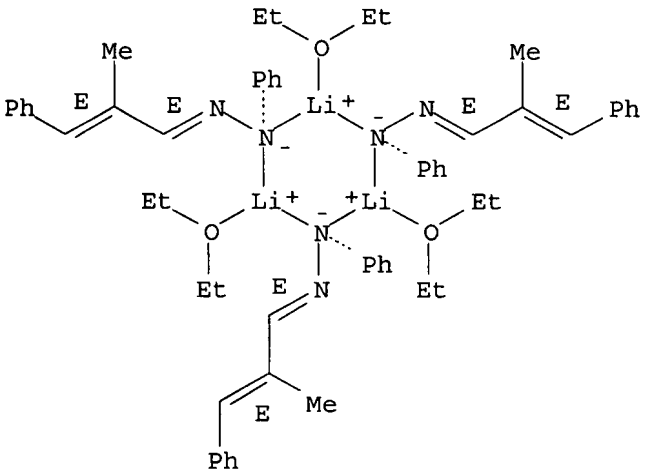
L146 ANSWER 35 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 36
ACCESSION NUMBER: 1998:164506 HCAPLUS
DOCUMENT NUMBER: 128:270220
TITLE: First X-ray crystal structure and NMR spectroscopic analysis of a lithiated 1,2-diazapentadiene
AUTHOR(S): Krol, Arndt; Frohlich, Roland; Wurthwein, Ernst-Ulrich
CORPORATE SOURCE: Inst. Org. Chem., Westfalische Wilhelms-Univ., Munster, D-48149, Germany
SOURCE: Chemical Communications (Cambridge) (**1998**), (4), 485-486
CODEN: CHCOFS; ISSN: 1359-7345
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 128:270220
ED Entered STN: 20 Mar 1998
AB **Deprotonation** of 1,2-diazapentadienes in Et2O leads to the resp. lithium compds. which, in the case of [(η1-PhNLiNCHCMeCHPh)·Et2O]3, consists of an almost planar (Li-N)3 hexagon resulting in a tunnel-like arrangement of the W-shaped 1,2-diazapentadienyl chains; the X-ray structure, solution NMR spectra and reactions with **electrophiles** are reported.
CC **22-3** (Physical **Organic** Chemistry)
Section cross-reference(s): 29, 75
IT Conformation
Conjugation (bond)
Crystal structure
Deprotonation
Electron delocalization
Electron density
Electrophiles
Internal rotation
Lithiation
MP2 (Moller-Plesset)
Molecular structure
Overhauser effect
PM3 (molecular orbital)
Proton NMR spectroscopy
RHF (molecular orbital)
Regiochemistry
Trimerization
(x-ray crystal structure and NMR spectroscopic anal. of lithiated 1,2-diazapentadiene)
IT **205581-24-4P**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); PROC (Process); **RACT (Reactant or reagent)**
(crystallog.; x-ray crystal structure and NMR spectroscopic anal. of **lithiated** 1,2-diazapentadiene)
IT 205581-23-3 **205581-25-5**
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); **RCT (Reactant)**; FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(x-ray crystal structure and NMR spectroscopic anal. of **lithiated** 1,2-diazapentadiene)
IT **205581-24-4P**

RL: PEP (Physical, engineering or chemical process); PRP (Properties); **RCT (Reactant)**; SPN (Synthetic preparation); PREP (Preparation); PROC (Process); **RACT (Reactant or reagent)**
(crystallog.; x-ray crystal structure and NMR spectroscopic anal. of **lithiated** 1,2-diazapentadiene)

RN 205581-24-4 HCAPLUS

CN Lithium, tris[μ-(2-methyl-3-phenyl-2-propenal phenylhydrazonato-κN2:κN2)]tris[1,1'-oxybis[ethane]]tri-, cyclo, (all-E)- (9CI) (CA INDEX NAME)

Relative stereochemistry.
Double bond geometry as shown.



IT **205581-25-5**
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); **RCT (Reactant)**; FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(x-ray crystal structure and NMR spectroscopic anal. of **lithiated** 1,2-diazapentadiene)

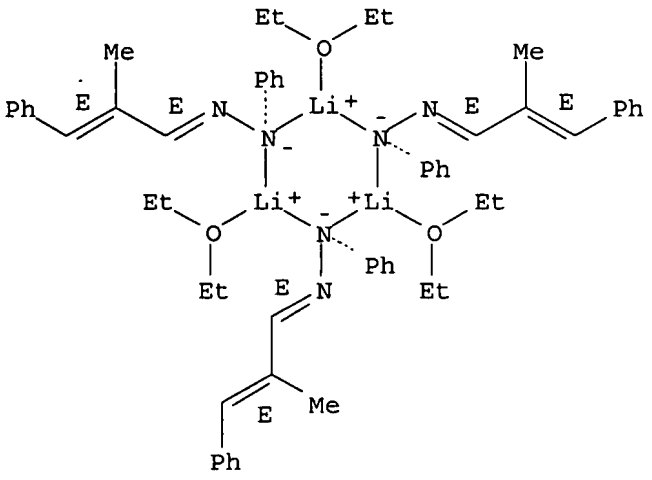
RN 205581-25-5 HCAPLUS

CN Lithium, tris[μ-(2-methyl-3-phenyl-2-propenal phenylhydrazonato-κN2:κN2)]tris[1,1'-oxybis[ethane]]tri-, cyclo, (all-E), compd. with hexane (6:1) (9CI) (CA INDEX NAME)

CM 1

CRN 205581-24-4
CMF C60 H75 Li3 N6 O3
CCI CCS

Relative stereochemistry.
Double bond geometry as shown.



CM 2

CRN 110-54-3
CMF C6 H14

$Me-(CH_2)_4-Me$

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 36 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 37
ACCESSION NUMBER: 1997:658531 HCAPLUS
DOCUMENT NUMBER: 127:318850
TITLE: Asymmetric **Deprotonations**: Lithiation of N-(tert-Butoxycarbonyl)indoline with sec-Butyllithium/(-)-Sparteine
AUTHOR(S): Gross, Kathleen M. Bertini; Jun, Young M.; Beak, Peter
CORPORATE SOURCE: Department of Chemistry Roger Adams Laboratory, University of Illinois at Champaign-Urbana, Urbana, IL, 61801, USA
SOURCE: Journal of Organic Chemistry (**1997**), 62(22), 7679-7689
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 127:318850
ED Entered STN: 17 Oct 1997
AB The asym. lithiation of N-Boc indoline with s-BuLi/(-)-sparteine and subsequent substitution provides the 2-substituted N-Boc indolines with excellent enantiomeric ratios and in variable yields. The asym. lithiation-substitution sequence with N-Boc-7-chloroindoline provides products with good enantiomeric ratios. Mechanistic investigation establishes that the enantioselectivities arise from an initial asym. **deprotonation** to provide the enantioenriched and configurationally stable organolithium intermediates, which react stereoselectively with **electrophiles.**

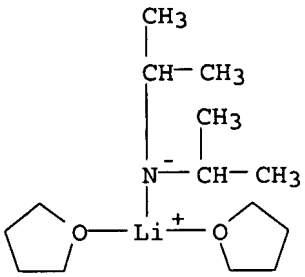
CC **27-11** (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): **22**
IT **Lithiation**
(stereoselective; of (tert-butoxycarbonyl)indolines with tert-**butyllithium**/(-)-sparteine)
REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 37 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 38
ACCESSION NUMBER: 1997:326291 HCAPLUS
DOCUMENT NUMBER: 126:330388
TITLE: Mechanism of Lithium Diisopropylamide-Mediated Ester **Deprotonation**: The Role of Disolvated Monomers
AUTHOR(S): Sun, Xiufeng; Kenkre, Sarita L.; Remenar, Julius F.; Gilchrist, James H.; Collum, David B.
CORPORATE SOURCE: Department of Chemistry Baker Laboratory, Cornell University, Ithaca, NY, 14853-1301, USA
SOURCE: Journal of the American Chemical Society (**1997**), 119(20), 4765-4766
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 22 May 1997
AB Rate studies of lithium diisopropylamide-mediated ester metalations(I → II) are described. A fractional order dependence on the lithium diisopropylamide concentration, a first order dependence on the THF concentration, and a substantial kinetic isotope effect reveal that the previously characterized disolvated dimers undergo deaggregation to disolvated monomers prior to a rate limiting proton transfer.
CC **22-12** (Physical **Organic** Chemistry)
ST lithium diisopropylamide ester **deprotonation** mechanism; disolvated monomer lithium diisopropylamide ester **deprotonation**; kinetics lithium diisopropylamide ester **deprotonation**
IT **Lithiation**
Lithiation
(kinetics; mechanism of lithium diisopropylamide mediated ester **deprotonation**)
IT Metalation kinetics
Metalation kinetics
(**lithiation** kinetics; mechanism of lithium diisopropylamide mediated ester **deprotonation**)
IT **Deprotonation**
Deprotonation kinetics
Lithiation
Proton transfer
Transition state structure
(mechanism of lithium diisopropylamide mediated ester **deprotonation**)
IT 7782-39-0, Deuterium, properties 7782-39-0, Deuterium, properties
RL: PRP (Properties)
(isotope effect; mechanism of lithium diisopropylamide mediated ester **deprotonation**)
IT 16537-05-6, tert-Butylcyclohexane carboxylate
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(mechanism of lithium diisopropylamide mediated ester **deprotonation**)
IT **141088-67-7**

RL: RCT (Reactant); **RACT (Reactant or reagent)**
(mechanism of lithium diisopropylamide mediated ester **deprotonation**)

IT **141088-67-7**
RL: RCT (Reactant); **RACT (Reactant or reagent)**
(mechanism of lithium diisopropylamide mediated ester **deprotonation**)

RN 141088-67-7 HCAPLUS
CN Lithium, [N-(1-methylethyl)-2-propanaminato]bis(tetrahydrofuran)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 38 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 39
ACCESSION NUMBER: 1997:198066 HCAPLUS
DOCUMENT NUMBER: 126:224873
TITLE: Pathways for Stereoinformation Transfer: Enhanced Enantioselectivity via Diastereomeric Recycling of Organolithium/(-)-Sparteine Complexes. [Erratum to document cited in CA125:220905]
AUTHOR(S): Basu, Amit; Gallagher, Donald J.; Beak, Peter
CORPORATE SOURCE: Department of Chemistry, University of Illinois, Urbana, IL, 61801, USA
SOURCE: Journal of Organic Chemistry (**1997**), 62(6), 1908
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 27 Mar 1997
AB The errors were not reflected in the abstract or the index entries.
CC **22-3** (Physical **Organic** Chemistry)
ST erratum lithiopivaloylethylaniline asym substitution; lithiopivaloylethylaniline asym substitution erratum; kinetic resoln **electrophilic** substitution erratum
IT **Lithiation**
Stereochemistry
Substitution reaction, **electrophilic**
(enhanced enantioselectivity in a lithiation-substitution sequence via diastereomeric recycling of **organolithium**/(-)- sparteine complexes (Erratum))

L146 ANSWER 39 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 40
ACCESSION NUMBER: 1997:219284 HCAPLUS
DOCUMENT NUMBER: 126:293415
TITLE: Chiral auxiliaries, ligands and arene chromium

complexes
AUTHOR(S): Kuendig, E. P.; Amurrio, D.; Anderson, G.; Beruben, D.; Khan, K.; Ripa, A.; Ronggang, L.
CORPORATE SOURCE: Dep. Chimie Organique, Univ. Geneve, Geneva, CH-1211, Switz.
SOURCE: Pure and Applied Chemistry (**1997**), 69(3), 543-546
CODEN: PACHAS; ISSN: 0033-4545
PUBLISHER: Blackwell
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 126:293415
ED Entered STN: 04 Apr 1997
AB Sequential addition of organolithium compds., RLi (R = Ph, vinyl, Me, Bu), in the presence of chiral auxiliaries, i.e., diether I, and allyl or propargyl bromide to (phenyloxazoline)Cr(CO)3 gave 1-oxazolyl-5,6-trans-disubstituted cyclohexadienes, e.g., II,. Regioselective radical (SnBu3) addition to the alkyne and cyclization of the vinylic radical to the diene moiety afforded fused bicyclic ring systems. Depending on whether the reaction was carried out with a terminal or internal alkyne, the reaction gave either cis-fused tetrahydroindanes or bicyclo[3.2.1]octenes selectively. Asym. methodologies for the synthesis of diastereo- or enantioenriched cyclohexadienes via temporary complexation of the arene to the **electrophilic** Cr(CO)3 include chiral auxiliaries on the arene (oxazolines, SAMP-hydrazone), chiral ligands at Cr, chiral nucleophiles (organolithium reagents modified by chiral ligands) and planar chiral complexes synthesized via enantioselective lithiation. The article contains new developments and examples of the 1st and 3rd approach of this asym. dearomatization methodol.
CC **29-11** (**Organometallic** and **Organometalloidal** Compounds)
IT **Lithiation**
(addition of **organolithium** compds. and allyl- or propargyl bromide to (phenyloxazoline)chromium to give oxazolyl disubstituted cyclohexadienes)
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L146 ANSWER 40 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 41
ACCESSION NUMBER: 1997:353854 HCAPLUS
DOCUMENT NUMBER: 127:81569
TITLE: Diastereo- and enantioselective synthesis of ferrocenylphosphines by twofold asymmetric ortho-lithiation
AUTHOR(S): Jendralla, Heiner; Paulus, Erich
CORPORATE SOURCE: Hoechst A.-G., Frankfurt/Main, D-65926, Germany
SOURCE: Synlett (**1997**), (5, Spec. Issue), 471-472
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Thieme
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 127:81569
ED Entered STN: 05 Jun 1997
AB Enantioselective **deprotonation** of diamidoferrocene I (R-R2 = H) with BuLi/(-)-sparteine complex, followed by addition of Ph2PCl, provided enantiomerically pure monophosphine (+)-I (R = PPh2; R1 = R2 = H) after a single recrystn. When sec-BuLi/(-)-sparteine complex was employed, meso-diphosphine I (R = R2 = PPh2; R1 = H) was obtained with 92% de. Conversely, treatment of homochiral I (R = PPh2; R1, R2 = H) with BuLi/(-)sparteine complex furnished enantiomerically pure C2-sym.

diphosphine I (R = R1 = PPh2; R2 = H) with 86-94% de. Rac-I (R = PPh2; R1 = R2 = H) led in 1:1 ratio to homochiral I (R = PPh2 with R1 = PPh2, R2 = H; R1 = H, R2 = PPh2) which were characterized by x-ray structural anal.

CC **29-12** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): 75

IT **Lithiation**
(stereoselective; preparation of ferrocenylphosphines by asym. lithiation with **butyllithium** in presence of sparteine)

L146 ANSWER 41 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 42
ACCESSION NUMBER: 1997:753745 HCAPLUS
DOCUMENT NUMBER: 128:115064
TITLE: Synthesis and structure of novel chiral oxazolinylferrocenes and oxazolinylferrocenylphosphine s, and their rhodium(I)-complexes
AUTHOR(S): Nishibayashi, Yoshiaki; Segawa, Kyohei; Arikawa, Yasuyoshi; Ohe, Kouichi; Hidai, Masanobu; Uemura, Sakae
CORPORATE SOURCE: Sakyo-ku, Graduate School of Engineering, Department of Energy and Hydrocarbon Chemistry, Kyoto University, Kyoto 606-01, Japan
SOURCE: Journal of Organometallic Chemistry (**1997**), 545-546, 381-398
CODEN: JORCAI; ISSN: 0022-328X
PUBLISHER: Elsevier Science S.A.
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 128:115064
ED Entered STN: 03 Dec 1997
AB A variety of chiral oxazolinylferrocenes were prepared from either ferrocenecarboxylic acid or cyanoferrocene and chiral β-amino alcs. Highly diastereoselective ortho-lithiation (84-99% de) of the oxazolinylferrocenes is accomplished with sec-butyllithium and the treatment of the lithiated compds. with an **electrophile** such as MeI, Ph2PCl or (PhSe)2 gives the corresponding ortho-substituted oxazolinylferrocenes. The x-ray crystal structure of (oxazolinyl)ferrocenes derivs. I [R', X = H, R = iPr, E = Ph2P (10) , PhSe; R' = H, X = Me, E = Ph2P, R = iPr; and X = Ph2P, E = H, R = R' = Ph (21)] were determined In connection with their usefulness as chiral ligands for Rh(I)-catalyzed asym. hydrosilylation of ketones, the square planar transition metal complexes having oxazolinylferrocenylphosphines, such as [II]BF4 (L2 = COD, R = R' = Ph; R = iPr, R' = H) and II [L2 = Cl(CO), R, R' = same] were prepared by treatment of [Rh(COD)2]BF4 and [Rh(CO)2Cl]2 with 10 and 21, resp., and all structures were characterized spectroscopically and further confirmed by x-ray crystallog.
CC **29-13** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): 75
ST crystal structure chiral oxazolinylferrocene oxazolinylferrocenylphosphine; mol structure chiral oxazolinylferrocene oxazolinylferrocenylphosphine; cyanoferrocene stereoselective cyclocondensation chiral amino alc; oxazolinylferrocene chiral prepn structure **electrophile** addn; ortholithiation stereoselective oxazolinylferrocene
IT **Lithiation**
(stereoselective; diastereoselective ortho-lithiation of the oxazolinylferrocenes with sec-**butyllithium**)
IT Addition reaction
(stereoselective; of **electrophiles** to lithiated chiral oxazolinylferrocenes)

IT 162157-02-0P 162157-03-1P 162157-04-2P 162157-05-3P 173065-68-4P
201484-45-9P 201484-51-7P 201556-00-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and sequential **deprotonation** and reaction with **electrophile**)
IT 201484-52-8P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, crystal structure and sequential **deprotonation** and reaction with **electrophile**)

L146 ANSWER 42 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 43
ACCESSION NUMBER: 1996:457581 HCAPLUS
DOCUMENT NUMBER: 125:221912
TITLE: On the reason for opposite diastereoselectivities of benzyllithium compounds containing lithium amide and lithium alkoxide functionalities
AUTHOR(S): Mueck-Lichtenfeld, Christian; Ahlbrecht, Hubertus
CORPORATE SOURCE: Inst. fuer Organische Chemie der Justus-Liebig-Univ., Giessen, D-35392, Germany
SOURCE: Tetrahedron (**1996**), 52(30), 10025-10042
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 125:221912
ED Entered STN: 02 Aug 1996
AB The carbolithiation of N-methyl-3-phenyl-prop-2-enylamine with tert-butyllithium leads to the monomeric benzyllithium compound, PhCH(Li)CH(CMe3)CH2N(Li)CH3 (1) in good yield. The consecutive reaction of 1 with **electrophiles** exhibits a high anti diastereoselectivity, opposite to what was earlier found for the O analog PhCH(Li)CHBuCH2OLi (3). PM3 semiempiricial calcns. on the intermediates show a preference of the anti configuration which is confirmed by 1H NMR. Measurements of the degree of aggregation show the dilithio compound 3 to exist as a dimer and higher aggregates in THF. PM3 calcns. on this dimer can explain the different diastereoselectivity.
CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)
IT **Lithiation**
(carbo-; of N-methylphenylpropenylamine with tert-**butyllithium** leads to the monomeric benzyllithium compds.)
IT Addition reaction
(diastereoselective addition of **electrophiles** to monomeric benzyllithium containing lithium amide)
IT **Electrophiles**
(diastereoselective addition to benzyllithium compds. containing lithium amide
and lithium alkoxide functionalities)
IT 181363-40-6P
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); FORM (Formation, nonpreparative); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(preparation, stereoselective addition with **electrophiles** and MO calcns. of)

L146 ANSWER 43 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 44
ACCESSION NUMBER: 1996:733908 HCAPLUS

DOCUMENT NUMBER: 126:46863
TITLE: Synthesis of Hindered and Functionalized 1-CF3 Substituted Olefins via a Carbolithiation-Elimination-Metalation Cascade
AUTHOR(S): Begue, Jean-Pierre; Bonnet-Delpon, Daniele; Bouvet, Denis; Rock, Michael H.
CORPORATE SOURCE: Centre d'Etudes Pharmaceutiques, BIOCIS CNRS-URA 1843, Chatenay-Malabry, F-92296, Fr.
SOURCE: Journal of Organic Chemistry (**1996**), 61(26), 9111-9114
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 126:46863
ED Entered STN: 14 Dec 1996
AB Addition of organolithium reagents R'Li (tert-BuLi, n-BuLi, PhLi) to trifluoromethyl enol ethers EtOC(RF):CHR (RF = CF3: R = Ph, CH:CHPh, p-MeOC6H4, CH2CH2Ph) and thio enol ethers EtSC(CF3):CHPh provided stereoselectively the corresponding trisubstituted fluoroalkenes I in 70-90% yields. The products could themselves react with organolithium reagents and undergo a vinyl metalation providing, after trapping with an **electrophile**, tetrasubstituted olefins in excellent yields and with stereoselectivity. This method can be applied to other fluoroalkyl enol ethers (RF = C2F5). The product, tetrasubstituted olefins, can be obtained directly from enol ether with 2 equiv of reagent through a carbolithiation-elimination-metalation cascade.
CC **23-3** (Aliphatic Compounds)
IT **Lithiation**
(vinylic metalation of 1-CF3-substituted olefins; stereoselective substitution reaction of trifluoromethyl enol ethers and thioethers with **organolithium** reagents for preparation of hindered and functionalized 1-CF3-substituted olefins)

L146 ANSWER 44 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 45
ACCESSION NUMBER: 1996:486189 HCAPLUS
DOCUMENT NUMBER: 125:220905
TITLE: Pathways for Stereoinformation Transfer: Enhanced Enantioselectivity via Diastereomeric Recycling of Organolithium/(-)-Sparteine Complexes
AUTHOR(S): Basu, Amit; Gallagher, Donald J.; Beak, Peter
CORPORATE SOURCE: Department of Chemistry, University of Illinois, Urbana, IL, 61801, USA
SOURCE: Journal of Organic Chemistry (**1996**), 61(17), 5718-5719
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 16 Aug 1996
AB The enantiomeric ratios for the asym. substitution of α-lithio-N-pivaloyl-o-ethylaniline are found to be dependent on the amount of the limiting **electrophilic** reagent, TMSCl. This consequence of kinetic resolution allows determination of the energy difference between nonequilibrating diastereomeric complexes of the organolithium intermediate. This result also allows the formation of products with amplified enantioselectivities by a diastereomeric recycling of the less reactive diastereomer via a temperature controlled asym. equilibration. A unique enantiodivergent **electrophilic** substitution of a common organolithium intermediate to provide two products that differ in absolute

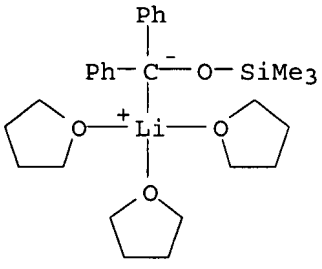
configuration in a one-flask sequence is also a demonstrated consequence of the kinetic resolution
CC **22-3** (Physical **Organic** Chemistry)
ST lithiopivaloylethylaniline asym substitution; kinetic resoln **electrophilic** substitution
IT **Lithiation**
Stereochemistry
Substitution reaction, **electrophilic**
(enhanced enantioselectivity in a lithiation-substitution sequence via diastereomeric recycling of **organolithium**/(-)- sparteine complexes)

L146 ANSWER 45 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 46
ACCESSION NUMBER: 1994:164394 HCAPLUS
DOCUMENT NUMBER: 120:164394
TITLE: Preparation and reactivity of new β-nitrogen-functionalized vinylic organolithium compounds from secondary aliphatic allylamines
AUTHOR(S): Barluenga, Jose; Canteli, Rosa Maria; Florez, Josefa
CORPORATE SOURCE: Fac. Quim., Univ. Oviedo, Oviedo, 33071, Spain
SOURCE: Journal of Organic Chemistry (**1994**), 59(3), 602-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 120:164394
ED Entered STN: 02 Apr 1994
AB Two new types of β-nitrogen-functionalized vinylic organolithium compds. were prepared from secondary aliphatic allylamines through the temporary silylation of the amino group. The monoanionic intermediates CH2:C(Li)CH2N(SiMe3)R 4, stable at -80°, are generated by a bromine-lithium exchange reaction. and the dianionic derivs. CH2:C(Li)CH2N(Li)R 2, stable at room temperature, by a tin-lithium transmetalation reaction. Both types of organolithium compds. react with different **electrophiles** giving functionalized allylamines. Moreover, dianionic derivs. I, II can be prepared directly by bromine-lithium exchange when the β-elimination reaction of hydrogen bromide in the lithium 2-bromoallylamide is structurally hindered. Addnl., a novel type of anionic 1,3-rearrangement of a trimethylsilyl group from nitrogen to carbon is described.
CC **29-8** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): **21**
IT **Lithiation**
(of secondary aliphatic allyamines, nitrogen-functionalized vinylic **organolithium** compds. from)
IT 153476-26-7P 153476-27-8P 153476-28-9P 153476-29-0P 153476-30-3P 153476-31-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, lithiation, and reaction of, with **electrophiles**)

L146 ANSWER 46 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 47
ACCESSION NUMBER: 1994:217765 HCAPLUS
DOCUMENT NUMBER: 120:217765
TITLE: α-Oxygen-substituted **organolithium** compounds and their carbenoid nature: reactions with RLi and other nucleophiles, experimental and IGLO-calculated carbon-13 NMR shifts of the carbenoid C atom

AUTHOR(S): Boche, Gernot; Bosold, Ferdinand; Lohrenz, John C. W.; Opel, Achim; Zulauf, Peter
CORPORATE SOURCE: Fachbereich Chem., Univ. Marburg, Marburg, D-35032, Germany
SOURCE: Chemische Berichte (**1993**), 126(8), 1873-85
CODEN: CHBEAM; ISSN: 0009-2940
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 30 Apr 1994
AB The authors provide evidence for the carbenoid character in α-**lithiated** ethers, which was demonstrated earlier by the C-O **bond** elongation between the anionic **carbon** atom and **oxygen.** Thus, α- **lithiated** ethers RCH(Li)OR' react as **electrophiles** with nucleophiles R''Li to give RCH(Li)R'' + LiOR', and the 13C-NMR signal of the carbenoid C atom is shifted downfield (compared to the 13C signal of the corresponding non-**lithiated** compound). Since the latter two observations are also made in the Li/halcarbenoid series, α- **lithiated** ethers indeed are Li/oxygen carbenoids. Furthermore, for the first time the authors have calculated the 13C shifts of carbenoid C atoms in the Li/oxygen carbenoid series by means of the IGLO method: the calculated data agree nicely with the exptl. ones. They even allow the preferred bridged structure in solution to be determined
CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): **22**
ST carbenoid alpha **lithiated** ether; NMR carbon 13 alpha **lithiated** ether; IGLO alpha **lithiated** ether carbenoid NMR; mol structure alpha **lithiated** ether IGLO
IT **Electrophiles**
(carbenoid α- **lithiated** ethers)
IT Transition state structure
(for reaction of carbenoid α- **lithiated** ether with **organolithium** compound)
IT Molecular structure
(of carbenoid α- **lithiated** ethers, calcn. of)
IT Nuclear magnetic resonance
(of carbenoid α- **lithiated** ethers, carbon-13)
IT Ethers, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(α- **lithiated** carbenoid, reactions with nucleophiles)
IT Molecular orbital
(individual gage for localized orbitals, of carbenoid α-**lithiated** ethers, for calcn. of carbon-13 chemical shifts)
IT 153526-44-4P 153918-33-3P
RL: PREP (Preparation)
(**formation** and reaction of, with nucleophiles, carbenoid nature in)
IT 153918-34-4P 153918-36-6P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(**formation** of, in reaction of carbenoid α-**lithiated** ether with **organolithium**)
IT 4799-68-2P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(**formation** of, in reaction of carbenoid α-**lithiated** ether with phenyllithium)
IT 108-88-3P, Toluene, preparation
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(**formation** of, in reaction of carbenoid α-**lithiated** ethers with phenyllithium)

IT 17498-07-6P 153526-45-5P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(**formation** of, in reaction of α- **lithiated** ether with **alkyllithium**)
IT 83693-58-7P 118418-18-1P 121232-32-4P
RL: PREP (Preparation)
(**formation**, NMR, and reaction with nucleophiles, carbenoid nature in)
IT 118418-22-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lithiation** of)
IT 14629-59-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lithiation** of, for subsequent reactions with **alkyllithiums**)
IT 271-89-6, Benzofuran
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lithiation** of, for subsequent reactions with nucleophiles)
IT 14762-74-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(nuclear magnetic resonance, of carbenoid α- **lithiated** ethers, carbon-13)
IT 83693-60-1P 153526-38-6P 153526-39-7P 153526-40-0P 153526-41-1P
153526-42-2P 153526-43-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and **lithiation** of)
IT 153918-35-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, in reaction of carbenoid α- **lithiated** ether with **organolithium**)
IT **153918-37-7**
RL: RCT (Reactant); **RACT (Reactant or reagent)**
(reaction of, with **alkyllithiums**, absence of carbenoid nature in)
IT 591-51-5, Phenyllithium
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carbenoid α- **lithiated** ethers)
IT **153918-37-7**
RL: RCT (Reactant); **RACT (Reactant or reagent)**
(reaction of, with **alkyllithiums**, absence of carbenoid nature in)
RN 153918-37-7 HCAPLUS
CN Lithium, [diphenyl[(trimethylsilyl)oxy]methyl]tris(tetrahydrofuran)-, (T-4)- (9CI) (CA INDEX NAME)



L146 ANSWER 47 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 49

ACCESSION NUMBER: 1992:408060 HCAPLUS
DOCUMENT NUMBER: 117:8060
TITLE: Reaction between (chlorodimesitylsilyl)diarylgermanes and tert-butyllithium in THF: the formation of new germyllithium compounds
AUTHOR(S): Baines, Kim M.; Groh, Robert J.; Joseph, Babu; Parshotam, Umesh R.
CORPORATE SOURCE: Dep. Chem., Univ. West. Ontario, London, ON, N6A 5B7, Can.
SOURCE: Organometallics (**1992**), 11(6), 2176-80
CODEN: ORGND7; ISSN: 0276-7333
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 117:8060
ED Entered STN: 11 Jul 1992
AB Treatment of (chlorodimesitylsilyl)diarylgermanes [Ar = 2,4,6-trimethylphenyl (Mes), 2,4,6-triisopropylphenyl] with excess tert-butyllithium in THF followed by quenching the reaction mixture with methanol gave (dimesitylsilyl)diarylgermanes (Ar = Mes, 2,4,6-triisopropylphenyl). Surprisingly, when either reaction mixture was quenched with methanol-d4, the corresponding (dimesitylsilyl)diaryldeuteri ogermanes (Ar = Mes, 2,4,6-triisopropylphenyl) were formed. The germyllithium compound Ar2GeLiSiHMes2 has been proposed as an intermediate. The germyllithium intermediate (Ar = Mes) was also trapped with other **electrophiles**, e.g. Me iodide, chlorotrimethylsilane, and benzyl bromide, to give Mes2GeESiHMes2 (E = Me, SiMe3, Br). Possible mechanisms for the formation of these compds. are also discussed.
CC **29-8** (**Organometallic** and **Organometalloidal** Compounds)
ST germyllithium aryl prepn reaction **electrophile**; germanium silicon bond silylgermane; lithiation chlorodimesitylsilyldiarylgermane
IT **Lithiation**
(of (chlorodimesitylsilyl)diarylgermanes with tert-**butyllithium**)

L146 ANSWER 48 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 50
ACCESSION NUMBER: 1992:185028 HCAPLUS
DOCUMENT NUMBER: 116:185028
TITLE: Tris(phenylimido) complexes of niobium and tantalum: preparation and properties of the d0 [M(=NR)3]- (M = Nb, Ta) functional group
AUTHOR(S): Smith, David P.; Allen, Kevin D.; Carducci, Michael D.; Wigley, David E.
CORPORATE SOURCE: Dep. Chem., Univ. Arizona, Tucson, AZ, 85721, USA
SOURCE: Inorganic Chemistry (**1992**), 31(8), 1319-20
CODEN: INOCAJ; ISSN: 0020-1669
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 May 1992
AB Nb(:Nmes)2Cl(py)2 (mes = 2,4,6-C6H2Me3) is prepared from the reaction of [Nb(NEt2)2Cl3]2 with 2 equiv of LiNHmes per Nb. [Nb(NEt2)2Cl3]2 reacts with excess LiNHmes in THF to provide [Li(THF)2]2[Nb(:Nmes)3(NHmes)]. Similarly, [Li(THF)2]2[Ta(:Nmes)3(NHmes)] is prepared from [Ta(NEt2)2Cl3]2 by a parallel procedure. Expts. are presented that suggest the tris(imido) functional group [Nb(:NR)3]- arises via an intermol. **deprotonation** of [Nb(:NR)2(NHR)2]-. [Li(THF)2]2(Nb(:NMes)3(NHMes)] reacts with 1 equiv of BuLi to **form** [Li(THF)2]2Nb(:NMes)3(Bu)]. An imprecise structure of this compound has been determined [Li(THF)2]2Nb(:NMes)3(Bu)] crystallizes in the monoclinic space group, P21/c, with a 12.568(3), b 12.494(2), c 34.402(7) Å,

β 92.84(1)°, and Z = 4. The structure reveals lithium association with the imido ligands.

CC 75-7 (Crystallography and Liquid Crystals)
Section cross-reference(s): **29**

IT **139606-43-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and **deprotonation** of)

IT **139583-05-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and reaction of, with pyridine or **butyllithium**)

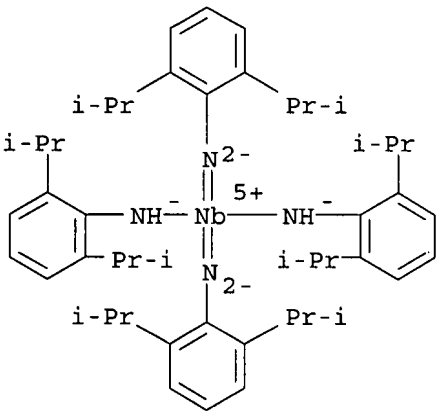
IT **139606-43-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); **RACT (Reactant or reagent)**
(preparation and **deprotonation** of)

RN 139606-43-2 HCAPLUS

CN Lithium(1+), tetrakis(tetrahydrofuran)-, (T-4)-, (T-4)-bis[2,6-bis(1-methylethyl)benzenaminato]bis[2,6-bis(1-methylethyl)benzenaminato(2-)]niobate(1-) (9CI) (CA INDEX NAME)

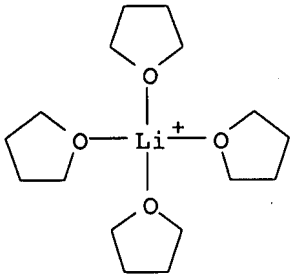
CM 1

CRN 139606-42-1
CMF C48 H70 N4 Nb
CCI CCS



CM 2

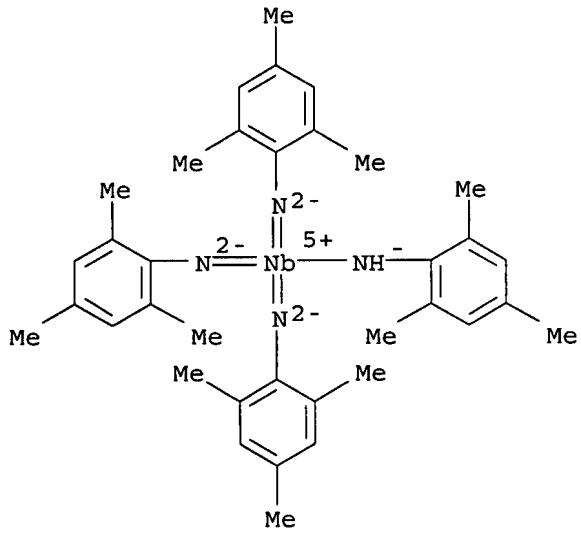
CRN 48186-27-2
CMF C16 H32 Li O4
CCI CCS



IT **139583-05-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(preparation and reaction of, with pyridine or **butyllithium**)
RN 139583-05-4 HCAPLUS
CN Lithium(1+), bis(tetrahydrofuran)-, (T-4)-(2,4,6-trimethylbenzenaminato)tris[2,4,6-trimethylbenzenaminato(2-)]niobate(2-) (2:1) (9CI) (CA INDEX NAME)

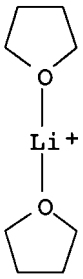
CM 1

CRN 139583-04-3
CMF C36 H45 N4 Nb
CCI CCS



CM 2

CRN 58702-68-4
CMF C8 H16 Li O2
CCI CCS



L146 ANSWER 49 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 51
ACCESSION NUMBER: 1993:233951 HCAPLUS
DOCUMENT NUMBER: 118:233951
TITLE: Studies of 2-substituted imidazoles. 3. Metalation of 1-methyl-2-phenyl- and 1-methyl-2-(2-furyl)imidazoles
AUTHOR(S): Stojanov, V. M.; Elchaninov, M. M.; Pozharskii, A. F.
CORPORATE SOURCE: Rostov. Gos. Univ., Rostov-on-Don, 344006, Russia
SOURCE: Khimiya Geterotsiklicheskikh Soedinenii (**1992**), (1), 61-6
CODEN: KGSSAQ; ISSN: 0132-6244
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ED Entered STN: 12 Jun 1993
AB Metalation of 1-methyl-2-phenylimidazole I (R = H) by BuLi gives the 5-lithiated derivative; under the same conditions 2-(2-furyl)-1-methylimidazole II (R1 = R2 = H) is metalated only at the 3-position of the furan ring. Addition of Et3N or Li 2,2,6,6-tetramethylpiperidide (III) to the reaction mixture leads only to the formation of 5-substituted furyl derivs. Thus, I and DMF, CO2, PhCHO, and PhCN gave I [R = CHO, CO2H, CH(OH)Ph, COPh], resp.; and II (R1 = R2 = H) and BuLi, DMF in the presence of III gave a mixture containing II (R1 = CHO, R2 = H; R1 = H, R2 = CHO).
CC **28-9** (Heterocyclic Compounds (More Than One Hetero Atom))
ST metalation methylphenylimidazole furylmethylimidazole; **electrophile** substitution methylphenylimidazole furylmethylimidazole
IT **Lithiation**
(of methyl(furyl)phenylimidazole by **butyllithium** and subsequent reactions of)
IT **Electrophiles**
(reaction of, with lithiated methylphenyl- and furylmethylimidazoles)
IT 3475-07-8, 1-Methyl-2-phenylimidazole 32902-09-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(sequential metalation by Bu lithium and reactions with **electrophiles**)

L146 ANSWER 50 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 52
ACCESSION NUMBER: 1992:106234 HCAPLUS
DOCUMENT NUMBER: 116:106234
TITLE: Triazolo[4,5-d]pyrimidines. XI. Halogen-metal exchange reaction of 5-halo-3H-1,2,3-triazolo[4,5-d]pyrimidines with butyllithium
AUTHOR(S): Tanji, Kenichi; Kato, Hiroyuki; Higashino, Takeo
CORPORATE SOURCE: Sch. Pharm. Sci., Univ. Shizuoka, Shizuoka, 422, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (**1991**), 39(11), 3037-40
CODEN: CPBTAL; ISSN: 0009-2363

DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 116:106234
ED Entered STN: 20 Mar 1992
AB The amino group at the 5-position on the 3H-1,2,3-triazolo[4,5-d]pyrimidine I (R = H, NMePh, R1 = NH2) ring was converted into a halogen atom (iodo, Br) by treatment with isopentyl nitrite in halomethanes in satisfactory yields. I (R = H, R1 = Br, Cl) reacted with butyllithium to give butylphenyltriazolo[4,5-d]pyrimidines II by addition of butyllithium across the C7,N6-double bond. In the case of I (R = NMePh, R1 = iodo), the halogen-metal exchange reaction proceeded and the resultant 5-lithio compound reacted with **electrophiles** to give I [R1 = CH(OH)Ph, C(OH)MeCH:CH2, CMe(OH)R2, R2 = Me, Ph].
CC **28-16** (Heterocyclic Compounds (More Than One Hetero Atom))
ST triazolopyrimidine halo prepn lithiation; **electrophilic** addn aminoiodotriazolopyrimidine benzaldehyde ketone
IT **Lithiation**
(of halotriazolopyrimidines with **butyllithium**)
IT Addition reaction
(**electrophilic**, of lithiated triazolopyrimidines with benzaldehyde and ketones)
IT 67-64-1, Acetone, reactions 78-94-4, Methyl vinyl ketone, reactions 98-86-2, Acetophenone, reactions 100-52-7, Benzaldehyde, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(**electrophilic** addition of, to lithiated triazolopyrimidine derivative)

L146 ANSWER 51 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 53
ACCESSION NUMBER: 1992:106233 HCAPLUS
DOCUMENT NUMBER: 116:106233
TITLE: Triazolo[4,5-d]pyrimidines. X. Halogen-metal exchange reaction of 7-halo-3-phenyl-3H-1,2,3-triazolo[4,5-d]pyrimidines with butyllithium
AUTHOR(S): Tanji, Kenichi; Kato, Hiroyuki; Higashino, Takeo
CORPORATE SOURCE: Sch. Pharm. Sci., Univ. Shizuoka, Shizuoka, 422, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (**1991**), 39(11), 2793-6
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 20 Mar 1992
AB The amino group at the 7-position in 3H-1,2,3-triazolo[4,5-d]pyrimidine I (R = NH2) was converted into a halo substituent in satisfactory yields by treatment with isopentyl nitrite in CHBr3 or CH2I2. The halogen-metal exchange reaction between I (R = iodo) and butyllithium in the presence of N,N,N',N'-tetramethylethylenediamine proceeded, to give I (R = Li) which reacted smoothly with **electrophiles** leading to I [R = PhCO, PhCHOH, Me2COH, Ph2COH, MeC(OH)CH:CH2]. On the other hand, the reaction of I (R = Cl) with butyllithium gave the ring fission product, 5-amino-1-phenyl-1H-1,2,3-triazole-4-carbonitrile (II).
CC **28-16** (Heterocyclic Compounds (More Than One Hetero Atom))
ST halogen metal exchange halophenyltriazolopyrimidine; lithiation halophenyltriazolopyrimidine; lithiophenyltriazolopyrimidine prepn addn **electrophile**; triazolopyrimidine lithiophenyl addn **electrophile**; ring cleavage chlorophenyltriazolopyrimidine butyllithium
IT **Lithiation**
(of halophenyltriazolopyrimidines with **butyllithium**)
IT Addition reaction
(of lithiophenyltriazolopyrimidine with **electrophiles**)

IT 139300-70-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, lithiation, dimerization, and protonation or reaction with **electrophiles**)

L146 ANSWER 52 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 54
ACCESSION NUMBER: 1991:491997 HCAPLUS
DOCUMENT NUMBER: 115:91997
TITLE: Preparation of 1-hydroxyindole derivatives and a new route to 2-substituted indoles
AUTHOR(S): Kawasaki, Toshiya; Kodama, Atsushi; Nishida, Tokiko; Shimizu, Kazuhisa; Somei, Masanori
CORPORATE SOURCE: Fac. Pharm. Sci., Kanazawa Univ., Kanazawa, 920, Japan
SOURCE: Heterocycles (**1991**), 32(2), 221-7
CODEN: HTCYAM; ISSN: 0385-5414
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 115:91997
ED Entered STN: 06 Sep 1991
AB An easy method for the preparation and handling of 1-hydroxyindole is developed. Based on this method, reactions of 1-hydroxyindole derivs. I [R = Me, allyl, tosyl, Me(CH2)5, PhCH2, (E)-PhCH:CHCH2, Me2CH:CHCH2, Me3SiMe2, Bz] are investigated. A new regioselective lithiation of 1-methoxyindole and its application for the synthesis of 2-substituted indoles II (R1 = CMe2OH, CPh2OH, 1-methyl-4-piperidinyl, CHO, CO2Me, iodo) are also reported.
CC **27-11** (Heterocyclic Compounds (One Hetero Atom))
ST hydroxylation dihydroindole peroxide tungstate; hydroxyindole alkylation **electrophile**; lithiation methoxyindole regiochem; indole substituted
IT **Lithiation**
(regioselective, of methoxyindole with **butyllithium**)
IT 3289-82-5P, 1-Hydroxyindole
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reactions of, with **electrophiles**)

L146 ANSWER 53 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 55
ACCESSION NUMBER: 1990:532252 HCAPLUS
DOCUMENT NUMBER: 113:132252
TITLE: Convenient general method for the preparation of primary alkyllithiums by lithium-iodine exchange
AUTHOR(S): Bailey, William F.; Punzalan, Eric R.
CORPORATE SOURCE: Dep. Chem., Univ. Connecticut, Storrs, CT, 06269-3060, USA
SOURCE: Journal of Organic Chemistry (**1990**), 55(19), 5404-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 113:132252
ED Entered STN: 13 Oct 1990
AB A general procedure is described for preparing RCH2Li (R = alkyl) by low-temperature Li-iodine exchange between Me3CLi and RCH2I. Treatment of .apprx.0.1 M RCH2I in 3:2 volume n-pentane-Et2O at -78° with 2.1-2.2 equiv Me3CLi results in clean and rapid Li-iodine exchange to generate the corresponding RCH2Li in virtually quant. yield. Allowing the reaction mixture to stand at room temperature for .apprx.1 h following lithiation removes excess Me3CLi via its rapid reaction with Et2O and provides clean solns.

of RCH2Li that may be treated with a variety of **electrophiles** to give essentially pure product in good-to-excellent yield.

CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)

IT **Lithiation**
(of primary alkyl iodides with tert-**butyllithium**)

IT 542-69-8, 1-Iodobutane 629-27-6, 1-Iodooctane 629-93-6, 1-Iodooctadecane 15501-33-4, Neopentyl iodide 17376-04-4, Phenethyl iodide 27935-87-1 51849-10-6, 1-(Iodomethyl)adamantane 79148-55-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(lithiation of, with tert-butyllithium, and reaction with **electrophile**)

L146 ANSWER 54 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 56
ACCESSION NUMBER: 1991:122529 HCAPLUS
DOCUMENT NUMBER: 114:122529
TITLE: The directed ortho-lithiation of aryl tetramethylphosphorodiamidates
AUTHOR(S): Watanabe, Mitsuaki; Date, Mutsuhiro; Kawanishi, Kenji; Hori, Takako; Furukawa, Sunao
CORPORATE SOURCE: Cent. Instrum. Anal., Nagasaki Univ., Nagasaki, 852, Japan
SOURCE: Chemical & Pharmaceutical Bulletin (**1990**), 38(10), 2637-43
CODEN: CPBTAL; ISSN: 0009-2363
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 114:122529
ED Entered STN: 06 Apr 1991
AB Aryl tetramethylphosphorodiamidates were effectively o-lithiated with sec-BuLi in THF at -105°. The resulting lithiated species were trapped with a variety of **electrophiles** at -105° to provide o-substituted phosphorodiamidates. When the lithiation was carried out at -78°, O → C migration of the bis(dimethylamino)phosphoryl group took place rapidly and 2-hydroxyarylphosphonic tetramethyldiamides were produced regioselectively. The o-directing ability of the phosphorodiamiates were investigated by intermol. competition expts. with other directed metalation groups.

CC **29-7** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): 25

IT **Lithiation**
(ortho-, of aryl tetramethylphosphorodiamidates with sec-**butyllithium**)

L146 ANSWER 55 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 57
ACCESSION NUMBER: 1990:98454 HCAPLUS
DOCUMENT NUMBER: 112:98454
TITLE: A highly convergent synthesis of benzimidazolylpiperidines
AUTHOR(S): Carr, Albert A.; Hay, David A.; Kane, John M.; Staeger, Michael A.
CORPORATE SOURCE: Merrell Dow Res. Inst., Cincinnati, OH, 45215, USA
SOURCE: Journal of Organic Chemistry (**1990**), 55(4), 1399-401
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 112:98454

ED Entered STN: 18 Mar 1990
AB Reaction of 1-[(4-fluorophenyl)methyl]-1H-benzimidazole with BuLi in THF at -78° resulted in the C2-**deprotonation** of the benzimidazole ring with no observable benzylic metalation. Reaction of this carbanion with several N-substituted piperidine-4-carboxylic acid esters afforded the corresponding benzimidazoylpiperidines I [R = H, CO2CMe3, CH2CH2C6H4OMe-4, (CH2)3COC6H4CMe3-4].
CC **28-9** (Heterocyclic Compounds (More Than One Hetero Atom))
IT **Lithiation**
(regioselective, of (fluorobenzyl)benzimidazole with **butyllithium**)
IT 51-17-2, Benzimidazole
RL: RCT (Reactant); RACT (Reactant or reagent)
(**deprotonation** and alkylation of, with fluorobenzyl chloride)
IT 124443-67-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and sequential **deprotonation** and substitution of, with piperidinecarboxylate, regiochem. of)

L146 ANSWER 56 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 58
ACCESSION NUMBER: 1990:478245 HCAPLUS
DOCUMENT NUMBER: 113:78245
TITLE: Methoxyethoxymethyl, tert-butoxymethyl, and benzyloxymethyl substituents as 1-protecting groups against organolithium reagents in the syntheses of imidazoles
AUTHOR(S): Ngochindo, Raphael I.
CORPORATE SOURCE: Dep. Chem., Univ. Liverpool, Liverpool, L69 3BX, UK
SOURCE: Journal of Chemical Research, Synopses (**1990**), (2), 58-9
CODEN: JRPSDC; ISSN: 0308-2342
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 113:78245
ED Entered STN: 01 Sep 1990
AB Lithiation of imidazoles I (R = MeOCH2CH2OCH2, Me3COCH2, PhCH2OCH2) with BuL followed by treatment with **electrophiles** gave 2-substituted imidazoles II [R1 = D, Me, CHO, CO2Et, C(OH)Ph2].
CC **28-9** (Heterocyclic Compounds (More Than One Hetero Atom))
IT **Lithiation**
(of imidazoles, with **organolithiums**, protective groups for)
IT 49822-58-4 128475-46-7 128475-47-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(monolithiation and reaction of, with **electrophile**)

L146 ANSWER 57 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 59
ACCESSION NUMBER: 1990:55038 HCAPLUS
DOCUMENT NUMBER: 112:55038
TITLE: Copper catalyzed reductive metalation of a propargylic epoxide to an allenyl lithium reagent
AUTHOR(S): Alexakis, A.; Marek, I.; Mangeney, P.; Normant, J. F.
CORPORATE SOURCE: Lab. Chim. Organoelem., Univ. Pierre et Marie Curie, Paris, 75252, Fr.
SOURCE: Tetrahedron Letters (**1989**), 30(18), 2391-2
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 112:55038
ED Entered STN: 17 Feb 1990
AB Phenethynyl cyclohexene oxide (I) undergoes a reductive metalation by BuLi

and catalytic amount of CuBr. The resulting allenyl lithium reagent II (R = R1 = Li) reacts normally with various **electrophiles** to give allenols II (R = H, D, Me, MeS; R1 = H) in 93-100% yields.

CC **24-5** (Alicyclic Compounds)
Section cross-reference(s): 27

ST reductive lithiation propargylic epoxide stereochem; copper catalyst reductive lithiation propargylic epoxide; allenyl lithium reaction **electrophile**

IT **Lithiation**
(reductive, stereoselective, of propargylic epoxide with **butyllithium** in the presence of cuprous bromide)

IT 124707-76-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(in situ preparation and reactions of, with **electrophiles**)

L146 ANSWER 58 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 60
ACCESSION NUMBER: 1989:57216 HCAPLUS
DOCUMENT NUMBER: 110:57216
TITLE: Directed lithiation of arenethiols
AUTHOR(S): Smith, Keith; Lindsay, Charles M.; Pritchard, Gareth J.
CORPORATE SOURCE: Dep. Chem., Univ. Coll. Swansea, Swansea, SA2 8PP, UK
SOURCE: Journal of the American Chemical Society (**1989**), 111(2), 665-9
CODEN: JACSAT; ISSN: 0002-7863
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 110:57216
ED Entered STN: 17 Feb 1989
AB Benzenethiol, toluene-4-thiol, and 3,5-dimethylbenzenethiol are doubly lithiated (on sulfur and on carbon) by BuLi in tetramethylethylenediamine. C-lithiation occurs ortho to the thiol group, and subsequent treatment with **electrophiles** provides a convenient approach to ortho-substituted arenethiol derivs. The reactions with tetraisopropylthiuram disulfide provide direct access to the resp. o-phenylene trithiocarbonates. Double lithiation of 4-methoxybenzenethiol results in C-lithiation adjacent to the methoxy group rather than the thiolate residue, indicating that methoxy is a more powerfully ortho-directing substituent in this type of metalation reaction. 3-Methoxybenzenethiol is lithiated between the methoxy and thiolate groups.
CC **25-8** (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
IT **Lithiation**
(regioselective, of arenethiols, with **butyllithium** in tetramethylethylenediamine)
IT 106-45-6, p-Methylbenzenethiol 696-63-9, p-Methoxybenzenethiol 15570-12-4, m-Methoxybenzenethiol 38360-81-5, 3,5-Dimethylbenzenethiol
RL: RCT (Reactant); RACT (Reactant or reagent)
(regioselective lithiation and reaction of, with **electrophile**)
IT 108-98-5, Benzenethiol, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(regioselective lithiation and reaction of, with **electrophiles**)

L146 ANSWER 59 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 61
ACCESSION NUMBER: 1988:55466 HCAPLUS
DOCUMENT NUMBER: 108:55466
TITLE: A simple way to some ketone homoenolates

AUTHOR(S): Cuvigny, Therese; Julia, Marc; Jullien, Ludovic; Rolando, Christian
CORPORATE SOURCE: Lab. Chim., Ec. Norm. Super., Paris, 75231/05, Fr.
SOURCE: Tetrahedron Letters (**1987**), 28(23), 2587-90
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 108:55466
ED Entered STN: 20 Feb 1988
AB **Deprotonation** of RCH2CH(OH)CH:CH2 [R = Me(CH2)6, Me(CH2)9], first with K and then with BuLi, followed by quenching, gave RCH2COEt in 70 and 77% yields, resp. Alkylation of the dianion with MeI or R1Br [R1 = H2C:CHCH2, Me(CH2)4, Me2CH(CH2)2] gave RCH2CO(CH2)2R1, along with small amts. of RCH2CHR1Me, RCHR1COEt, and dialkylated products.
CC **23-15** (Aliphatic Compounds)
ST ketone homoenolate alkylation regiochem; dianion allyl alc; allylic alkoxide **deprotonation** butyllithium; synthon ketone homoenolate allylic alc
IT **Lithiation**
(of allylic alkoxides with **butyllithium**, ketone homoenolates by)
IT 17642-48-7, 1-Tetradecen-3-ol 51100-54-0, 1-Decen-3-ol
RL: RCT (Reactant); RACT (Reactant or reagent)
(**deprotonation**, lithiation, hydrolysis, and alkylation of)

L146 ANSWER 60 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 62
ACCESSION NUMBER: 1987:598412 HCAPLUS
DOCUMENT NUMBER: 107:198412
TITLE: Monomeric **organolithium** compounds in tetrahydrofuran: tert-**butyllithium**, sec-**butyllithium**, supermesityllithium, mesityllithium, and phenyllithium. Carbon-lithium **coupling** constants and the nature of carbon-lithium bonding
AUTHOR(S): Bauer, Walter; Winchester, William R.; Schleyer, Paul von R.
CORPORATE SOURCE: Inst. Org. Chem., Friedrich-Alexander Univ., Erlangen, D-8520, Fed. Rep. Ger.
SOURCE: Organometallics (**1987**), 6(11), 2371-9
CODEN: ORGND7; ISSN: 0276-7333
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 107:198412
ED Entered STN: 27 Nov 1987
AB Me3CLi is a dimer in Et2O and a monomer in THF by cryoscopy at -108° and by NMR, whereas Me2CHCH2Li in THF exists in a monomer-dimer equilibrium in ratios of 88:12 by cryoscopy at -108° and 78:22 by 13C NMR at -96°. PhLi at -103° in dilute THF is a 35:65 monomer-dimer equilibrium mixture Addition of (Me2NCH2CH2)2NMe (PMDTA) converts all dimers to monomers. 2,4,6-R3C6H2Li (R = Me3C, Me) also are monomers. The magnitude of C-Li **coupling** consts. depends on the state of aggregation, but only to a limited extent on other factors, e.g., C hybridization, suggesting that the C-Li bond is largely ionic. The heat of **lithiation** of (Me3C)3C6H3 in an isodesmic reaction with PhLi and the effect of solvation by NH3 on the reaction were determined by MNDO calcns.
CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): **22**
ST **organolithium** aggregation THF NMR cryoscopy;

butyllithium NMR aggregation THF; mesityllithium NMR aggregation THF; supermesityllithium NMR aggregation THF; phenyllithium NMR aggregation THF; carbon lithium **coupling** bond **organolithium**; lithium NMR **butyllithium** THF; dimerization **organolithium** THF NMR; MO dibutylbenzene **lithiation** isodesmic reaction

IT Spin, nuclear **coupling**
(carbon-13 and lithium-6 or -7, aggregation of **organolithiums** in relation to)

IT Solvation
(effect of, on heat of **lithiation** of dialkylbenzene with lithiobenzene)

IT Heat of **lithiation**
(of dialkylbenzene with lithiobenzene, solvation by ammonia in relation to)

IT Dimerization
(of **organolithium** compds. in THF, multinuclear NMR in relation to)

IT Molecular orbital
(MNDO, of **lithiation** of dialkylbenzene with lithiobenzene, solvation by ammonia in relation to)

IT Bond
(carbon-lithium, in **organolithium** compds., ionicity of)

IT Nuclear magnetic resonance spectrometry
(heteronuclear double, two-dimensional, in **organolithiums**, of lithium-6-proton)

IT 14258-72-1, Lithium-6, properties
RL: PRP (Properties)
(NMR of, in **organolithium** compds. in THF or di-Et ether)

IT 13982-05-3, Lithium-7, properties
RL: PRP (Properties)
(NMR of, in tert-**butyllithium** in THF or di-Et ether)

IT 60-29-7, Diethyl ether, properties 109-99-9, Tetrahydrofuran, properties
RL: PRP (Properties)
(aggregation of **organolithium** compds. in, multinuclear NMR in relation to)

IT 594-19-4, tert-**Butyllithium**
RL: RCT (Reactant); RACT (Reactant or reagent)
(aggregation of, in THF and di-Et ether, multinuclear NMR and cryoscopy in relation to)

IT 7440-44-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(bond, carbon-lithium, in **organolithium** compds., ionicity of)

IT 66050-71-3 66050-73-5 110095-27-7 110095-28-8 110095-29-9 110116-26-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(carbon-13 and lithium-6 and -7 NMR **coupling** consts. of)

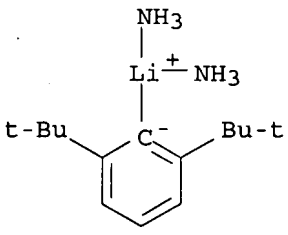
IT 110-18-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(complexation of, with **organolithiums** in THF, NMR and cryoscopy in relation to)

IT 294-93-9, 12-Crown-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(**deprotonation** of, with **butyllithium** in THF)

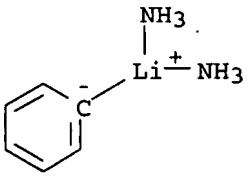
IT 598-30-1, sec-**Butyllithium**
RL: RCT (Reactant); RACT (Reactant or reagent)
(dimerization and complexation of, with pentamethyldiethylenetriamine in THF, cryoscopy and NMR in relation to)

IT 110095-17-5P 110095-19-7P
RL: PREP (Preparation)

(**formation** and carbon-13 NMR of, in THF)
IT 110095-18-6P
RL: PREP (Preparation)
(**formation** and complexation of, with pentamethyldiethylenetriamine in THF, NMR in relation to)
IT 110095-16-4P
RL: PREP (Preparation)
(**formation** and complexation of, with pentamethyldiethylenetriamine in THF, carbon-13 NMR in relation to)
IT 110095-20-0P
RL: PREP (Preparation)
(**formation** and multinuclear NMR of, in di-Et ether)
IT 71-43-2P, preparation 110095-22-2P **110095-24-4P**
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(**formation** of, from **lithiation** of dialkylbenzene with lithiobenzene, heat of isodesmic reaction in relation to)
IT 35383-91-6P
RL: PREP (Preparation)
(**formation**, MNDO calcns., and complexation of, with tetramethylethylenediamine)
IT 591-51-5 **110095-23-3**
RL: RCT (Reactant); **RACT (Reactant or reagent)**
(**lithiation** by, of dialkylbenzene, enthalpy of)
IT 3975-77-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lithiation** of)
IT 1014-60-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lithiation** of, with lithiobenzene, enthalpy of)
IT 109-72-8, **Butyllithium**, properties
RL: PRP (Properties)
(mol. structure of, in THF and presence of chelating polyamine)
IT **110095-24-4P**
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(**formation** of, from **lithiation** of dialkylbenzene with lithiobenzene, heat of isodesmic reaction in relation to)
RN 110095-24-4 HCAPLUS
CN Lithium, diammine[2,6-bis(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)



IT **110095-23-3**
RL: RCT (Reactant); **RACT (Reactant or reagent)**
(**lithiation** by, of dialkylbenzene, enthalpy of)
RN 110095-23-3 HCAPLUS
CN Lithium, diamminephenyl- (9CI) (CA INDEX NAME)



L146 ANSWER 61 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 63
ACCESSION NUMBER: 1987:617444 HCAPLUS
DOCUMENT NUMBER: 107:217444
TITLE: Carbon dioxide: a reagent for the simultaneous protection of nucleophilic centers and the activation of alternative locations to **electrophilic** attack. Part 8. A novel synthetic route to 4-substituted 2-pyridones
AUTHOR(S): Katritzky, Alan R.; Fan, Wei Qiang; Koziol, Anna E.; Palenik, Gus J.
CORPORATE SOURCE: Dep. Chem., Univ. Florida, Gainesville, FL, 32611, USA
SOURCE: Tetrahedron (**1987**), 43(10), 2343-8
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 107:217444
ED Entered STN: 12 Dec 1987
AB **Deprotonation** of 2-pyridone (I, R = R1 = H) with BuLi, followed by carbonation with CO2, gave lithiocarbamate I (R = CO2Li, R1 = H). Further lithiation with Me3CLi gave dilithio derivative I (R = CO2Li, R1 = Li), which was quenched with a variety of **electrophiles** to give, after hydrolysis, 4-substituted pyridones I [R = H, R1 = CPh2OH, CH(OH)C6H4OMe-4, CH(OH)C6H4Me-4, D, Me, CO2H, CONHPh, (PH(OH)C6H4OMe-4, COCH2Ph] in 49-85% yields. The regiochem. of the lithiation and addition reaction was proved by a crystal structure of I (R = H, R1 = CPh2OH).
CC **27-16** (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 75
ST lithiocarbamate protective group pyridone; lithiation lithiopyridonecarbamate regiochem; **electrophile** addn dilithiopyridonecarbamate; crystal structure pyridonyldiphenylcarbinol; mol structure pyridonyldiphenylcarbinol
IT Addition reaction
(of **electrophiles** to dilithiopyridonecarbamate, substituted pyridones by)
IT **Lithiation**
(regioselective, of lithiopyridonecarbamate, with **butyllithium**)
IT 142-08-5, 2-Pyridone
RL: RCT (Reactant); RACT (Reactant or reagent)
(**deprotonation** of, with butyllithium)
IT 111288-81-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with **electrophiles**)

L146 ANSWER 62 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 64
ACCESSION NUMBER: 1987:195901 HCAPLUS
DOCUMENT NUMBER: 106:195901
TITLE: The preparation and lithiation of 1-halogenocyclopropenes

AUTHOR(S): Baird, Mark S.; Hussain, Helmi H.; Nethercott, William
CORPORATE SOURCE: Dep. Org. Chem., Univ. Newcastle upon Tyne, Newcastle upon Tyne, NE1 7RU, UK
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (**1986**), (10), 1845-53
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 106:195901
ED Entered STN: 13 Jun 1987
AB Reaction of 1,1,2-trihalocyclopropanes (halide = Br, Cl) with MeLi in Et2O at -90 to +20° leads to 1,2-dehalogenation to the corresponding 1-halocycloprepenes (I). I are readily lithiated by exchange with a 2nd equiv of MeLi to 1-lithiocyclopropenes, which are trapped by **electrophiles.** An exception is chlorocyclopropene II, which gives CH2:CMeC.tplbond.CMe after Li-H exchange and LiCl loss. Cyclopropenes (X = Br,Cl) decompose to enynes or haloalkynes. A 12C-labeling study (sic) indicates that C-1 of the III (X = Cl) becomes C-2 of HC.tplbond.CCMe2Cl.
CC **24-2** (Alicyclic Compounds)
IT **Lithiation**
(of halocyclopropenes with **methyllithium**)
IT Addition reaction
(nucleophilic, of lithiocyclopropenes with **electrophiles**)

L146 ANSWER 63 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 65
ACCESSION NUMBER: 1986:129216 HCAPLUS
DOCUMENT NUMBER: 104:129216
TITLE: Effect of N-butyllithium on 3-bromo-2-halopyridines (fluorine, chlorine, and bromine). Principle and study of a new reaction possibility: homotransmetalation
AUTHOR(S): Mallet, M.; Queguiner, G.
CORPORATE SOURCE: Lab. Chim. Org. Heterocycl., Inst. Natl. Super. Chim. Ind., Mont Saint Aignan, 76130, Fr.
SOURCE: Tetrahedron (**1985**), 41(16), 3433-40
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: French
OTHER SOURCE(S): CASREACT 104:129216
ED Entered STN: 19 Apr 1986
AB Treating 3-bromo-2-halopyridines (halo = F, Cl, Br) with BuLi involved, among other mechanisms, homotransmetalation to give the 3-lithio products. Treating the homotransmetalation products with **electrophiles**, e.g., BuBr, EtOH, pentanone, gave the 4-brominated products. The variety of products was discussed in terms of isomerization of the initial bromolithio intermediates. Thus, treating 3-bromo-2-fluoropyridine with BuLi, followed by pentanone, gave the 4-bromopyridine derivative I. On the other hand, treating 3-bromo-2-chloropyridine with BuLi, followed by pentanone, gave the pyridylpyridine derivative II.
CC **22-4** (Physical **Organic** Chemistry)
Section cross-reference(s): **29**
IT **Lithiation**
(of bromohalopyridines by **butyllithium**, mechanism of)

L146 ANSWER 64 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 66
ACCESSION NUMBER: 1985:504657 HCAPLUS
DOCUMENT NUMBER: 103:104657
TITLE: Dilithiated synthons of tertiary benzamides, phthalamides, and O,O'-aryl dicarbamates

AUTHOR(S): Mills, R. J.; Horvath, R. F.; Sibi, M. P.; Snieckus, V.
CORPORATE SOURCE: Guelph-Waterloo Cent. Grad. Work Chem., Univ. Waterloo, Waterloo, ON, N2L 3G1, Can.
SOURCE: Tetrahedron Letters (**1985**), 26(9), 1145-8
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 103:104657
ED Entered STN: 04 Oct 1985
AB Benzamide I (R = Li) and phthalamide II (R1 = Li), prepared by treating I (R = Br) and II (R1 = Br) with Me3CLi, underwent reaction with **electrophiles** to afford I and II (R, R1 = D, SMe, CONEt2, iodo). In contrast to I and II, aryl dicarbamate III (R3 = H, R4 = CONEt2) underwent dilithiation directly when treated with EtMeCHLi. III (R3 = Li) reacted with **electrophiles** to give III (R3 = D, SMe, CONEt2, iodo) and underwent Fries rearrangement at room temperature to give, after treatment with K2CO3 and MeI, III (R3 = CONEt2; R4 = Me).
CC **25-19** (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
ST lithiation bromobenzamide; phthalamide bromo lithiation; benzenediol dicarbamate lithiation; Fries rearrangement lithiated aryl dicarbamate; benzamide lithiated **electrophile** substitution; **electrophile** substitution lithiated phthalamide
IT **Lithiation**
(of diethylbenzamide, tetraethylphthalamide, and aryl dicarbamate with **alkyllithium** reagents)
IT Substitution reaction, **electrophilic**
(of dilithiated diethylbenzamide, tetraethylphthalamide, and aryl dicarbamate)
IT 97567-55-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(lithiation and reaction of, with **electrophiles**)
IT 97567-60-7P 97567-61-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reactions of, with **electrophiles**)
IT 85370-72-5P 97567-63-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation, lithiation, and reaction of, with **electrophiles**)

L146 ANSWER 65 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 67
ACCESSION NUMBER: 1983:595034 HCAPLUS
DOCUMENT NUMBER: 99:195034
TITLE: Review on the metalation of π-deficient heteroaromatic compounds. Regioselective ortho-**lithiation** of 3-fluoropyridine: directing effects and application to synthesis of 2,3- or 3,4-disubstituted pyridines
AUTHOR(S): Marsais, Francis; Queguiner, Guy
CORPORATE SOURCE: Lab. Chim. Org. Heterocyclique, Inst. Natl. Super. Chim. Ind. Rouen, Mont Saint Aignan, 76130, Fr.
SOURCE: Tetrahedron (**1983**), 39(12), 2009-21
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal; **General Review**
LANGUAGE: English
OTHER SOURCE(S): CASREACT 99:195034
ED Entered STN: 12 May 1984
AB **Lithiation** of 3-fluoropyridine is chemoselective at low temps.

using **butyllithium**-polyamine chelates or lithium diisopropylamide. Protophilic attack by these strong bases can be directed either at the 2- or 4-position depending on the **lithiation** conditions. Various reaction parameters are studied: solvent, temperature, reaction time, lithium-chelating agent metalating agent. The high regioselectivity of 3-fluoropyridine **lithiation** is theor. discussed, in particular in terms of kinetic or thermodn. control of the metalation. Chelation between **butyllithium** and 3-fluoropyridine is proposed, which completely modifies the heterocycle reactivity toward the **lithiating** agent. This is confirmed by theor. quantum calcns. performed on different models of 3-fluoropyridine using the CNDO/2. These results permit selection of 3-fluoropyridine metalation conditions which lead to 3-fluoro-2-lithiopyridine on the one hand and to 3-fluoro-4-lithiopyridine on the other hand. Each of the **lithiated** isomers is then reacted with a great variety of **electrophiles** to give the corresponding 2,3- or 3,4-disubstituted pyridines. Metalation of π-deficient heterocycles was also reviewed.

CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)

ST regiochem **lithiation** fluoropyridine; pyridine fluoro **lithiation** review chem; metalation arom heterocycle

IT Chelation
(between **butyllithium** and fluoropyridine, regiochem. of **lithiation** in relation to)

IT Exchange reaction
(halogen-metal, between bromofluoropyridines in presence of **butyllithium**)

IT **Lithiation**
(of fluoropyridine, regiochem. of)

IT Regiochemistry
(of **lithiation** of fluoropyridine)

IT Solvent effect
(on **lithiation** of fluoropyridine)

IT Molecular orbital
(CNDO/2, of fluoropyridine, **lithiation** regiochem. in relation to)

IT 680-31-9, uses and miscellaneous
RL: PRP (Properties)
(effect of, on **lithiation** of fluoropyridine)

IT 87674-18-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(**formation** of aminobromopyridine from)

IT 109-72-8P, preparation 4111-54-0 **87686-24-6**
RL: RCT (Reactant); **RACT (Reactant or reagent)**; RACT (Reactant or reagent)
(**lithiation** by, of fluoropyridine, regiochem. of)

IT 372-47-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(**lithiation** of, regiochem. of)

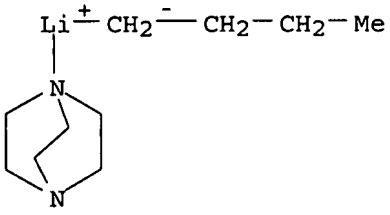
IT 39856-58-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and **formation** of bromofluoropyridine from)

IT 2546-52-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and halogen-metal exchange reaction of, in presence of **butyllithium**)

IT 77332-72-0P 87674-08-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation, reactions with **electrophiles**, and MO calcns. of)

IT **87686-24-6**

RL: RCT (Reactant); **RACT (Reactant or reagent)**
(lithiation by, of fluoropyridine, regiochem. of)
RN 87686-24-6 HCAPLUS
CN Lithium, butyl(1,4-diazabicyclo[2.2.2]octane-N1)- (9CI) (CA INDEX NAME)



L146 ANSWER 66 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 68
ACCESSION NUMBER: 1982:472403 HCAPLUS
DOCUMENT NUMBER: 97:72403
TITLE: Preparation of functionally substituted allenes from methylacetylenes via propargylic lithium alanate or lithium borate intermediates
AUTHOR(S): Pearson, Norman R.; Hahn, Gregory; Zweifel, George
CORPORATE SOURCE: Dep. Chem., Univ. California, Davis, CA, 95616, USA
SOURCE: Journal of Organic Chemistry (**1982**), 47(17), 3364-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 97:72403
ED Entered STN: 12 May 1984
AB RC.tplbond.CMe (R = Bu, Me3C, n-C8H17, cyclohexyl) were lithiated with Me3CLi-Me2NCH2CH2NMe2, then converted into alanates or borates by reaction with (Me2CHCH2)3Al or (EtCHMe)3B. These reacted regioselectively with **electrophiles** (CH2:CHCH2Br, EtCHO, Me2CO, Me2C:CHCH2Br, etc.) to give 1,1-disubstituted allenes.
CC **29-2** (**Organometallic** and **Organometalloidal** Compounds)
Section cross-reference(s): **22**, 23
ST lithium **electrophile** regioselective coupling; allene disubstituted
IT **Coupling reaction**
(of **electrophiles** with **organolithium** compds.)
IT Regiochemistry
(regioselectivity, in coupling reactions of organolithium compds. with **electrophiles**)
IT 82511-26-0P 82511-27-1P 82511-37-3P 82511-38-4P 82511-39-5P
82511-40-8P 82511-41-9P 82511-42-0P 82511-43-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and reactions with **electrophiles**)

L146 ANSWER 67 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 69
ACCESSION NUMBER: 1982:34155 HCAPLUS
DOCUMENT NUMBER: 96:34155
TITLE: Nucleophilic substitutions at silicon. Evidence for ion-pair dissociation as controlling factor of the stereochemistry and a simple mechanistic proposal
AUTHOR(S): Corriu, R. J. P.; Guerin, C.
CORPORATE SOURCE: Lab. Organometall., Univ. Sci. Tech. Languedoc,

Montpellier, 34060, Fr.
SOURCE: Tetrahedron (**1981**), 37(14), 2467-72
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 May 1984
AB The stereochem. and kinetics of the coupling reactions of chiral organosilanes with BuLi and EtLi and of their reduction with LiAlH4 were studied. **Electrophilic** assistance to Si-X bond cleavage does not control reaction stereochem. but facilitates inversion by increasing the ability of the leaving group to depart. The dominant influence is that of ion-pair dissociation and, hence, of the electronic character of the nucleophile. A reaction mechanism is proposed, based on a description of nucleophilic substitutions at Si as a frontier-orbital process.
CC **22-4** (Physical **Organic** Chemistry)
IT **Coupling reaction**
(of chiral organosilanes with **alkyllithiums**, stereochem. and mechanism of)

L146 ANSWER 68 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 70
ACCESSION NUMBER: 1980:215240 HCAPLUS
DOCUMENT NUMBER: 92:215240
TITLE: Facile synthesis of 8-substituted quinolines
AUTHOR(S): Suggs, J. William; Pearson, G. D. N.
CORPORATE SOURCE: Bell Lab., Murray Hill, NJ, 07974, USA
SOURCE: Journal of Organic Chemistry (**1980**), 45(8), 1514-15
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 92:215240
ED Entered STN: 12 May 1984
AB The title compds. I (R = CDO, CHO, CHMe(OH), CH2CH:CH2, PPh2, Me, SnMe3, CH2CH2OH) were prepared in 32-87% yields by lithiating I (R = Br) with MeEtCHLi to give I (R = Li) followed by treatment with the appropriate **electrophile**, e.g., MeI.
CC **27-18** (Heterocyclic Compounds (One Hetero Atom))
IT **Metalation**
(**lithiation**, of bromoquinoline with sec-**butyllithium**)
IT 73038-01-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with **electrophiles**)

L146 ANSWER 69 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 71
ACCESSION NUMBER: 1980:470793 HCAPLUS
DOCUMENT NUMBER: 93:70793
TITLE: Vinyl anions. Part 8. Regioselectivity of metalation of alkylmercapto olefins
AUTHOR(S): Schmidt, Richard R.; Speer, Heike; Schmid, Bruno
CORPORATE SOURCE: Fachber. Chem., Univ. Konstanz, Konstanz, D-7750, Fed. Rep. Ger.
SOURCE: Tetrahedron Letters (**1979**), (44), 4277-80
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 May 1984
AB cis-EtS(O)CH:CHSEt (I) and EtSCH:CHCN underwent regioselective lithiation with Me3CLi to give almost exclusively α- **deprotonated** vinyllithium derivs. Studies of the temperature dependence of trapping of these

derivs. with **electrophiles** showed that they are configurationally labile. I with Me3CLi and MeOD at -100° gave 31% trans- (II) and 59% cis-EtS(O)CD:CHSEt (III), and at -80° gave 73% II and 59% III.

CC **22-9** (Physical **Organic** Chemistry)

ST ethylsulfinylethylmercaptoethene regioselective **deprotonation** lithiation; acrylonitrile ethylmercapto regioselective **deprotonation** lithiation

IT Stereochemistry
(in **deprotonation** of ethylmercaptoethenes with tert-butyllithium)

IT Protonation and Proton transfer reaction
(**deprotonation**, of ethylmercaptoethenes with tert-butyllithium, regioselectivity in)

IT **Metalation**
(**lithiation**, of ethylmercaptoethenes with tert-**butyllithium**, regioselectivity in)

IT Stereochemistry
(regioselectivity, in **deprotonation** of ethylmercaptoethenes with tert-butyllithium)

IT 60036-65-9 60036-66-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(**deprotonation** of, with tert-butyllithium, regioselectivity in)

IT 74130-21-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and **deprotonation** of, with tert-butyllithium regioselectivity in)

L146 ANSWER 70 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 72
ACCESSION NUMBER: 1976:135202 HCAPLUS
DOCUMENT NUMBER: 84:135202
TITLE: Selective halogen-lithium exchange in bromophenylalkyl halides
AUTHOR(S): Parham, William E.; Jones, Lawrence D.; Sayed, Yousry A.
CORPORATE SOURCE: Paul M. Gross Chem. Lab., Duke Univ., Durham, NC, USA
SOURCE: Journal of Organic Chemistry (**1976**), 41(7), 1184-6
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 84:135202

ED Entered STN: 12 May 1984

AB Exchange of the aryl halide atom in o-BrC6H4CH2Cl, o-BrC6H4(CH2)2Br, and o-BrC6H4(CH2)3Cl for Li was carried out with BuLi in THF-hexane at -100°. The stable lithio derivs. reacted with a variety of **electrophiles**; e.g., o-LiC6H4CH2Cl (I) with H2O, cyclohexanone, or PhNCO at low temperature gave, resp., PhCH2Cl, II, and III. I with H2O at room temperature gave 9,10-dihydroanthracene (not benzocyclopropene). Benzocyclobutene was formed from o-LiC6H4(CH2)2Br under similar conditions. O-halobenzyl bromides were lithiated at the benzyl bromine atom and underwent subsequent coupling to bibenzyl. O-BrC6H4(CH2)3Br with BuLi underwent intramol. coupling to indan.

CC **25-3** (Noncondensed Aromatic Compounds)
Section cross-reference(s): 26, 27

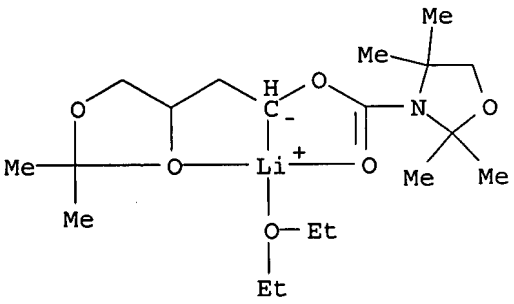
ST cyclization lithiophenylpropyl bromide; lithiophenylalkyl halide reaction **electrophile**; phenylalkyl halide lithio **electrophile**; butyllithium exchange halophenylalkyl halide; coupling benzyl bromide;

benzocyclobutene; anthracene dihydro; spirocyclohexanephthalan; phthalan spirocyclohexane; phthalimidine phenyl

IT **Coupling reaction**
(of benzyl bromides with **butyllithium**)

L146 ANSWER 71 OF 115 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:885267 HCAPLUS
DOCUMENT NUMBER: 124:117147
TITLE: Chelation-directed asymmetric lithiation and C-substitution of 1,2,4-butanetriol acetonide
AUTHOR(S): Helmke, Hendrik; Hoppe, Dieter
CORPORATE SOURCE: Organisch-Chemisches Institut, Universitaet Muenster, Muenster, D-48149, Germany
SOURCE: Synlett (**1995**), (9), 978-80
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Thieme
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 124:117147
ED Entered STN: 28 Oct 1995
AB The 4-O-(2,2,4,4-tetramethyl-1,3-oxazolidine-3-carboxylate) of (S)-1,2-O-isopropylidene-1,2,4-butanetriol is readily **deprotonated** by sec-butyllithium in ether with high lk-diastereoselectivity. The presumed bicyclic chelate complex is trapped by various **electrophiles** to form optically active adducts (e.g., I) with >95% diastereoselectivity, serving as a synthetic equivalent for the unknown (1S,3S)-1,3,4-trihydroxybutanide ion. External complexation of tertiary diamines can compete with the internal oxygen ligand, leading to modified stereoselectivities.
CC **28-6** (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): **22**, 29
IT **Lithiation**
Stereochemistry
Synthons
(chelation-directed asym. lithiation and C-substitution of 1,2,4-butanetriol acetonide)
IT **Electrophiles**
RL: RCT (Reactant); RACT (Reactant or reagent)
(chelation-directed asym. lithiation and C-substitution of 1,2,4-butanetriol acetonide)
IT Protonation and Proton transfer reaction
(**deprotonation**, stereoselective, chelation-directed asym. lithiation and C-substitution of 1,2,4-butanetriol acetonide)
IT Substitution reaction
(stereoselective, **electrophilic**; chelation-directed asym. lithiation and C-substitution of 1,2,4-butanetriol acetonide)
IT **172841-63-3**
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); **RCT (Reactant)**; FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(chelation-directed asym. **lithiation** and C-substitution of 1,2,4-butanetriol acetonide)
IT **172841-63-3**
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); **RCT (Reactant)**; FORM (Formation, nonpreparative); PROC (Process); **RACT (Reactant or reagent)**
(chelation-directed asym. **lithiation** and C-substitution of 1,2,4-butanetriol acetonide)
RN 172841-63-3 HCAPLUS
CN Lithium, [2-(2,2-dimethyl-1,3-dioxolan-4-yl)-1-[[(2,2,4,4-tetramethyl-3-

oxazolidinyl)carbonyl]oxy]ethyl][1,1'-oxybis[ethane]]-, [T-4-[S-(R*,R*)]]-
(9CI) (CA INDEX NAME)



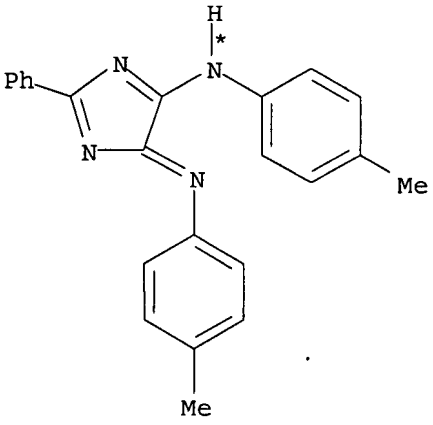
=> d ibib ed ab fhit 72
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH, DISSABS' - CONTINUE? (Y)/N:y

'ED' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):ibib ab fhit

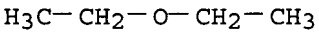
L146 ANSWER 72 OF 115 CASREACT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 130:81458 CASREACT
TITLE: The stabilization of **lithiated** organic compounds by water as a ligand. Synthesis of a new lithium-imidazole complex and regioselective reactions with selected **electrophiles**
AUTHOR(S): Atzrodt, Jens; Beckert, Rainer; Braeuer, Michael; Nordhoff, Karsten; Anders, Ernst; Goerls, Helmar
CORPORATE SOURCE: Institut Organische Makromolekulare Chemie, Friedrich-Schiller-Universitaet, Jena, D-07743, Germany
SOURCE: European Journal of Organic Chemistry (**1998**), (11), 2557-2563
CODEN: EJOCFK; ISSN: 1434-193X
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The **deprotonation** of the 4H-imidazoles I (R + H; R1 = 4-Me, 4-Me2N, 3-CF3) by LiH yields Li chelates which contain a stable delocalized anion. Surprisingly, the x-ray crystal structure anal. of **lithiated** I (R = H; R1 = 4-Me) reveals 1 mol. H2O in the 1st complexation sphere of Li+. This result is in good agreement with semiempirical calcns. (PM3) which predict an increase in stability on substitution of Et2O ligands by H2O mols. The **deprotonation** of I (R = H) is accompanied by a change of color from orange to purple because of the polymethinic character of the resulting anion. Alkylation as well as acylation of **lithiated** I (R = H) leads to the corresponding exocyclic substituted derivs. I (R = Me, Et, PhCH2, Ac,

PhCO). NMR of the latter and semiempirical calcns. suggest the existence of 2 rotamers due to the low rotation barrier of the exocyclic C-N bond. Another type of acylation is observed when PhCH2COCl is used as an acylating agent. A rearrangement took place forming unsatd. amides such as imidazolylideneacetamide II.

RX(4) OF 13 A + J ===> **K**

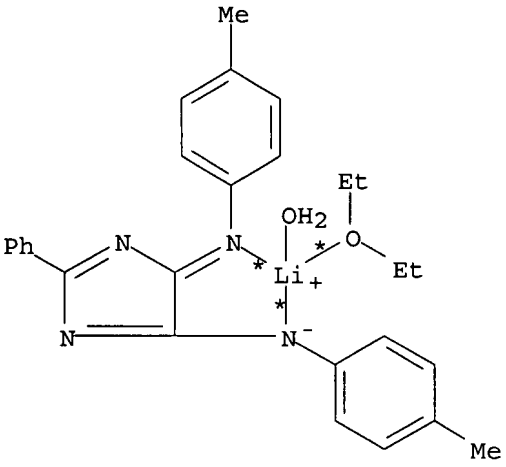


A



J

(4) →



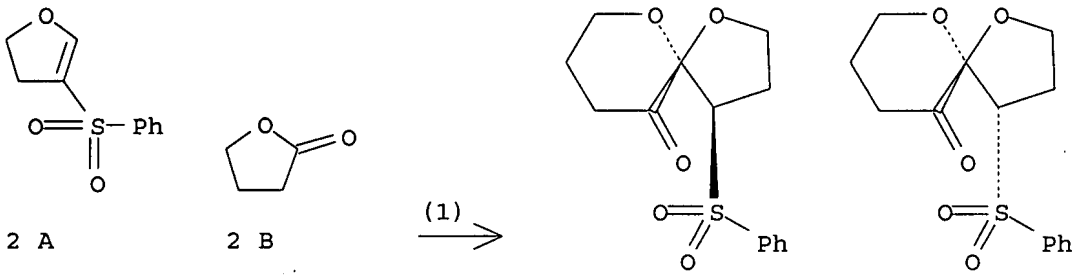
K
YIELD 80%

RX(4) RCT A 200510-95-8, J 60-29-7
RGT D 7580-67-8 LiH
PRO K **218966-65-5**
SOL 60-29-7 Et2O
REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d ibib ab fhit 73-74
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH, DISSABS' - CONTINUE? (Y)/N:y

L146 ANSWER 73 OF 115 CASREACT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 123:198464 CASREACT
TITLE: New one-step process for the synthesis of functionalized 1,6-dioxaspiro[4,5]decanes
AUTHOR(S): Carretero, Juan C.; Rojo, Javier; Diaz, Nuria; Hamdouchi, Chafiq; Poveda, Ana
CORPORATE SOURCE: Dep. Quim. Org., Fac. Ciencias, Univ. Autonoma Madrid, Madrid, 28049, Spain
SOURCE: Tetrahedron (**1995**), 51(31), 8507-24
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB β-Phenylsulfonyl dihydrofurans were readily prepared by reduction of α-phenylsulfonyl-γ-lactones with DIBAL-H, followed by dehydration with MsCl-Et3N. Dihydrofurans were **deprotonated** with n-BuLi and the resulting α- **lithiated** carbanion reacted with a wide variety of **electrophiles.** Particularly interesting is its reaction with γ-lactones which affords 1,6-dioxaspiro[4,5]decanes in good yields in one-step procedure. This new method of synthesis of spiroketals, in non-acid conditions, is thermodynamically controlled and occurs with high stereoselectivity at C-4, C-5 and C-7, but not at C-2.

RX(1) OF 88 ...2 A + 2 B ===> C + D



2 A 2 B

C
YIELD 61%(4)

D
YIELD 61%(96)

RX(1) RCT A 133128-40-2

STAGE(1)
RGT E 109-72-8 BuLi
SOL 109-99-9 THF, 110-54-3 Hexane

STAGE(2)

RCT B 96-48-0

STAGE(3)
RGT F 12125-02-9 NH4Cl
SOL 7732-18-5 Water

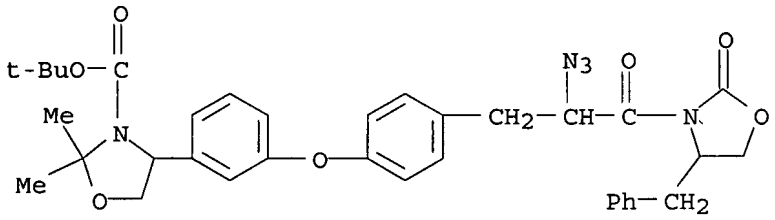
STAGE(4)
RGT G **1310-65-2** LiOH
SOL 109-99-9 THF, 7732-18-5 Water

PRO C 161113-94-6, D 161113-95-7
NTE stereoselective

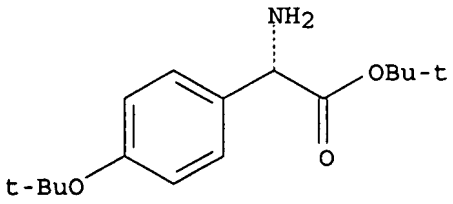
L146 ANSWER 74 OF 115 CASREACT COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 115:136768 CASREACT
TITLE: An approach to a synthetic carboxylate-binding pocket based on β-avoparcin
AUTHOR(S): Stone, Martin J.; Van Dyk, Martha S.; Booth, Paul M.; Williams, Dudley H.
CORPORATE SOURCE: Univ. Chem. Lab., Cambridge, CB2 1EW, UK
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (**1991**), (7), 1629-35
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English

AB An approach to macrocyclic lactam I designed to bind to a carboxylate anion described. The diaryl ether II (R = p-C6H4CH:CHCO2Me; Boc = Me3CO2C) was prepared by Ullmann **coupling** of the protected 3-hydroxyphenylglycine derivative II (R = H) and (E)-4-bromocinnamic acid Me ester. Elaboration of an optically pure (R)-tyrosine synthon was achieved by transfer of **electrophilic** azide to the N-acyl oxazolidinone III. The synthesis of a model system is also described.

RX(5) OF 22 ...K + P ===> Q...



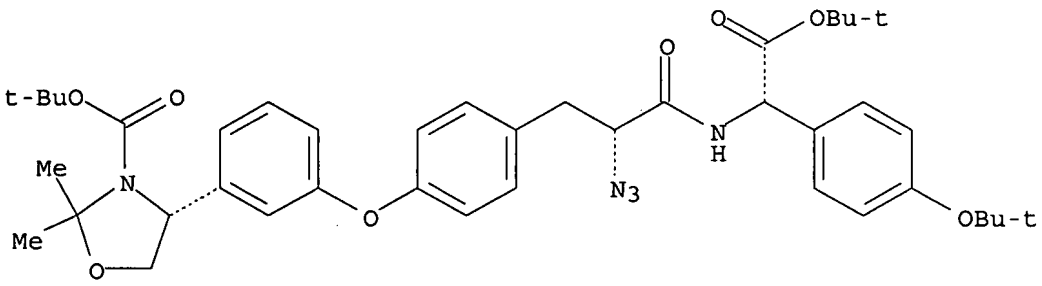
K



● HCl

P

(5) →



Q
YIELD 90%

RX(5) RCT K 136057-24-4

STAGE(1)
RGT R 7722-84-1 H2O2, S **1310-65-2** LiOH
SOL 109-99-9 THF, 7732-18-5 Water

STAGE(2)
RCT P 136057-26-6
RGT T 538-75-0 DCC
SOL 75-09-2 CH2Cl2

PRO Q 136057-27-7

=> d ibib ab hitstr 75-81
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH, DISSABS' - CONTINUE? (Y)/N:y

L146 ANSWER 75 OF 115 USPATFULL on STN DUPLICATE 5
ACCESSION NUMBER: 2003:140951 USPATFULL
TITLE: Silanol enzyme inhibitors
INVENTOR(S): Sieburth, Scott McN., Coram, NY, UNITED STATES
Mutahi, Alfred M., Edison, NJ, UNITED STATES
Chen, Chien-An, Madison, WI, UNITED STATES

PATENT ASSIGNEE(S): Research Foundation of State University of New York (U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 2003096793	A1	20030522		<--
	US 6960678	B2	20051101		
APPLICATION INFO.:	US 2002-171560	A1	20020611	(10)	<--

RELATED APPLN. INFO.: Division of Ser. No. US 1998-194715, filed on 17 Dec 1998, GRANTED, Pat. No. US 6441212 Continuation-in-part of Ser. No. US 1996-680330, filed on 12 Jul 1996, GRANTED, Pat. No. US 5760019
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: HOFFMANN & BARON, LLP, 6900 JERICHO TURNPIKE, SYOSSET, NY, 11791
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1
LINE COUNT: 1769
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compounds of formula (I, II or III), wherein X is OH; Y is OH, H, lower alkyl of one to six **carbons** or **heteroatoms** or F; Z and Z' are independently H, lower alkyl or Q.sub.3Si where Q is lower alkyl or aryl; **n** is 3-50; **n'** is 2-50; A and B are independently a) alkyl of one to ten **carbons** or **heteroatoms**, b) aryl of four to seven **carbons** or **heteroatoms**, c) cyclic of three to ten **carbons** or **heteroatoms**, or moieties of the formulas (d, e, or f); R.sup.1-R.sup.11 groups are each independently hydrogen, alkyl of one to ten **carbons** or **heteroatoms**, aryl of 4 to 14 **carbons** or **heteroatoms**, arylalkyl of five to twenty **carbons** or **heteroatoms**; unsubstituted carbonyl or substituted carbonyl. **Heteroatoms** are **nitrogen**, **oxygen**, silicon or **sulfur.** At least one of A or B, or both A and B are d), e), or f). The compounds of formula (I) inhibit protease enzymes and can be used as pharmaceuticals.

L146 ANSWER 76 OF 115 USPATFULL on STN
ACCESSION NUMBER: 2006:156241 USPATFULL
TITLE: Method for metal-organic production of organic intermediate products by means of aryl lithium-bases
INVENTOR(S): Meudt, Andreas, Sulzbach, GERMANY, FEDERAL REPUBLIC OF
Lehnemann, Bernd, Sulzbach, GERMANY, FEDERAL REPUBLIC OF
Erbes, Michael, Sulzbach, GERMANY, FEDERAL REPUBLIC OF
Forstinger, Klaus, Sulzbach, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 2006131762	A1	20060622		
APPLICATION INFO.:	US 2003-526237	A1	20030821	(10)	<--
	WO 2003-EP9252		20030821		<--
			20050228	PCT 371 date	

	NUMBER	DATE	
PRIORITY INFORMATION:	DE 2002-10240262	20020831	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: CLARIANT CORPORATION, INTELLECTUAL PROPERTY DEPARTMENT, 4000 MONROE ROAD, CHARLOTTE, NC, 28205, US
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
LINE COUNT: 479
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a method for the production of substituted aromatic compounds by producing lithium arylene and by reacting it with suitable **electrophiles.** The method comprises the following steps (step 1); an aryl lithium compound (auxiliary base") is initially produced by reacting a halogen aromatic compound with lithium metal; said compound is subsequently (step 2) reacted for **deprotonation** of the aromatic substrate in order to form the corresponding lithium aromatic compound which is subsequently (step 3) reacted with a corresponding **electrophile** to form the desired substituted aromatic compound, see page 2 of the description.

L146 ANSWER 77 OF 115 USPATFULL on STN
ACCESSION NUMBER: 2005:296897 USPATFULL
TITLE: Method for the organometallic production of organic intermediate products comprising **carbon-heteroatom bonds** achieved by the **deprotonation** of **heteroatoms**
INVENTOR(S): Meudt, Andreas, Hofheim, GERMANY, FEDERAL REPUBLIC OF
Lehnemann, Bernd, Frankfurt am Main, GERMANY, FEDERAL REPUBLIC OF
Erbes, Michael, Frankfurt am Main, GERMANY, FEDERAL REPUBLIC OF
Forstinger, Klaus, Babenhausen, GERMANY, FEDERAL REPUBLIC OF

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 2005258553	A1	20051124		
APPLICATION INFO.:	US 2003-526327	A1	20030821	(10)	<--
	WO 2003-EP9250		20030821		
			20050228	PCT 371 date	

	NUMBER	DATE	
PRIORITY INFORMATION:	DE 2002-10240260	20020831	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: CLARIANT CORPORATION, INTELLECTUAL PROPERTY DEPARTMENT, 4000 MONROE ROAD, CHARLOTTE, NC, 28205, US
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
LINE COUNT: 411
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB ##STR1## ##STR2## ##STR3## The invention relates to a method for binding **heteroatom-carbon bonds.** According to said method, a lithium compound (II) is first generated by reacting aliphatic or aromatic halogen compounds (I) with lithium metal, said compound is then used for the **deprotonation** of the compounds (III) or (V). The lithium salts of formulas (IV) or (VI) obtained by said **deprotonation** are subsequently reacted with suitable **carbon electrophiles** (equation I), said process binding the **heteroatom-carbon bond** and forming the products (VIII) or (VIII), (equation I).

L146 ANSWER 78 OF 115 USPATFULL on STN
ACCESSION NUMBER: 2002:217438 USPATFULL
TITLE: Silanol enzyme inhibitors
INVENTOR(S): Sieburth, Scott McN., Coram, NY, United States
Mutahi, Alfred M., Edison, NJ, United States
Chen, Chien-An, Madison, WI, United States
PATENT ASSIGNEE(S): Research Foundation of State University of New York, Albany, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 6441212	B1	20020827		<--
	WO 9802578		19980122		<--
APPLICATION INFO.:	US 1998-194715		19981217	(9)	<--
	WO 1997-US12041		19970711		<--
			19981217	PCT 371 date	

RELATED APPLN. INFO.: Division of Ser. No. US 1996-680330, filed on 12 Jul 1996, now patented, Pat. No. US 5760014
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Low, Christopher S. F.
ASSISTANT EXAMINER: Lukton, David
LEGAL REPRESENTATIVE: Hoffmann & Baron, LLP
NUMBER OF CLAIMS: 4
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 0 Drawing Figure(s); 0 Drawing Page(s)
LINE COUNT: 1543
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compounds of formula (I, II, or III), wherein X is OH; Y is OH, H, lower alkyl of one to six **carbons** or **heteroatoms** or F; Z and Z' are independently H, lower alkyl or Q.sub.3Si where Q is lower alkyl or aryl; **n** is 3-50; **n'** is 2-50, A and B are independently a) alkyl of one to ten **carbons** or **heteroatoms**, b) aryl of four to ten **carbons** or **heteroatoms**, c) cyclic of three to ten **carbons** or **heteroatoms**, or moieties of the formulas (d, e, or f); R.sup.1-R.sup.11 groups are each independently hydrogen, alkyl of one to ten **carbons** or heteoatoms aryl of 4 to 14 **carbons** or **heteroatoms**, arylalkyl of five to twenty **carbons** or **heteroatoms**; unsubstituted carbonyl or substituted carbonyl. **Heteroatoms** are **nitrogen**, **oxygen**, silicon or **sulfur**. At least one of A or B, or both A and B are d), e), or f). The compounds of formula (I) inhibit protease enzymes and can be used as pharmaceuticals.

L146 ANSWER 79 OF 115 USPATFULL on STN
ACCESSION NUMBER: 2000:114136 USPATFULL
TITLE: Synthesis of benzo[f]quinolinones
INVENTOR(S): Brennan, John, Indianapolis, IN, United States
Doecke, Christopher William, Indianapolis, IN, United States
Heath, Perry Clark, Indianapolis, IN, United States
Patterson, Lawrence Edward, Indianapolis, IN, United States
Udodong, Uko Effiong, Indianapolis, IN, United States
Weigel, Leland Otto, Indianapolis, IN, United States
PATENT ASSIGNEE(S): Eli Lilly and Company, Indianapolis, IN, United States (U.S. corporation)

NUMBER KIND DATE

PATENT INFORMATION:	US 6111110	20000829		<--
	WO 9818757	19980507		<--
APPLICATION INFO.:	US 1999-254829	19990312	(9)	<--
	WO 1997-US19229	19971027		<--
		19990312	PCT 371 date	
		19990312	PCT 102(e) date	

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1996-27868P	19961030 (60)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Seaman, D. Margaret
LEGAL REPRESENTATIVE: Sayles, Michael J.
NUMBER OF CLAIMS: 21
EXEMPLARY CLAIM: 1
LINE COUNT: 1339
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process for preparing intermediates and benzoquinolin-3-one pharmaceuticals, such pharmaceuticals are effective in treating conditions consequent on 5α-reductase.

L146 ANSWER 80 OF 115 USPATFULL on STN
ACCESSION NUMBER: 1998:61634 USPATFULL
TITLE: Silanol enzyme inhibitors
INVENTOR(S): Sieburth, Scott McN., Coram, NY, United States
Mutahi, Alfred M., Edison, NJ, United States
PATENT ASSIGNEE(S): The Research Foundation of State University of New York, Albany, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE		
PATENT INFORMATION:	US 5760019		19980602		<--
APPLICATION INFO.:	US 1996-680330		19960712	(8)	<--

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Ketter, James
ASSISTANT EXAMINER: Yucel, Irem
LEGAL REPRESENTATIVE: Hoffman & Baron, LLP
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
LINE COUNT: 1766
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compounds of formula I ##STR1## in which X is OH

Y is H, OH methyl or F,

A and B are independently

a) alkyl of one to ten **carbons** or **heteroatoms**,

b) aryl of four to seven **carbons** or **heteroatoms**,

c) cyclic of three to ten **carbons** or **heteroatoms**, or moieties of the formulas ##STR2## in a), b), c), d), e) and f), CH is **bonded** to silicon; R.sup.1 to R.sup.11 are independently hydrogen, alkyl of 1 to 10 **carbons** or **heteroatoms**, aryl of 4 to 14 **carbons** or **heteroatoms**, arylalkyl of 5 to 20 **carbons** or **heteroatoms**, substituted carbonyl

or unsubstituted carbonyl;

heteroatoms are **nitrogen**, **oxygen**, silicon or **sulfur**; and

at least one of A and B is independently moieties d, e or f.

The compounds of formula I inhibit protease enzymes and can be used as pharmaceuticals.

L146 ANSWER 81 OF 115 USPATFULL on STN
ACCESSION NUMBER: 89:74287 USPATFULL
TITLE: Spiro-tricyclicaromatic succinimide derivatives
INVENTOR(S): York, Jr., Billie M., Fort Worth, TX, United States
PATENT ASSIGNEE(S): Alcon Laboratories, Inc., Fort Worth, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 4864028		19890905	<--
APPLICATION INFO.:	US 1987-94636		19870909 (7)	<--

DISCLAIMER DATE: 20020827
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1987-5859, filed on 21 Jan 1987, now abandoned which is a continuation of Ser. No. US 1985-766569, filed on 14 Aug 1985, now abandoned which is a continuation of Ser. No. US 1983-532168, filed on 14 Sep 1983, now patented, Pat. No. US 4537892
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Schwartz, Richard A.
LEGAL REPRESENTATIVE: Arno, James A., Brown, Gregg C., Price, Robert L.
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
LINE COUNT: 3105
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Disclosed are substituted or unsubstituted planar tricyclic fluorene or nuclear analogs thereof, spiro-coupled to a five-membered ring containing a secondary amide, and the pharmaceutically acceptable salts thereof. These compounds are useful, inter alia, in the treatment of diabetes. Also disclosed are processes for the preparation of such compounds; pharmaceutical compositions comprising such compounds; and methods of treatment comprising administering such compounds and compositions when indicated for, inter alia, long term, prophylactic treatment of the diabetes syndrome.

=> d iall abeq tech abex 82-101
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH, DISSABS' - CONTINUE? (Y)/N:y

L146 ANSWER 82 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-304882 [31] WPIX
DOC. NO. CPI: C2005-094425
TITLE: One pot production of an organometallic compound comprises reacting a hydrocarbon or heteroatom-containing material with a base material, adding metal source and reacting the hydrocarbon or heteroatom containing

compound with metal source.
DERWENT CLASS: A85 E12 L03
INVENTOR(S): MEIERE, S H; PETERS, D W
PATENT ASSIGNEE(S): (MEIE-I) MEIERE S H; (PETE-I) PETERS D W; (PRAX-N) PRAXAIR TECHNOLOGY INC
COUNTRY COUNT: 108
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 2005075510	A1	20050407	(200531)*		9	C07F001-00
WO 2005038866	A2	20050428	(200531)	EN		H01L000-00

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 2005075510	A1	US 2003-678074	20031006
WO 2005038866	A2	WO 2004-US32339	20041001

PRIORITY APPLN. INFO: US 2003-678074 20031006
INT. PATENT CLASSIF.:
MAIN: C07F001-00; H01L000-00
SECONDARY: **C07F001-02**
BASIC ABSTRACT:
US2005075510 A UPAB: 20050517
NOVELTY - One pot production of an organometallic compound involves reacting a hydrocarbon or heteroatom-containing material with a base material in presence of a solvent to form a first reaction mixture, adding a metal source compound to the first reaction mixture, reacting the hydrocarbon or heteroatom containing compound with the metal source compound to form a second reaction mixture of organometallic compound, followed by separation from the second reaction mixture.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a one pot production of a liquid hafnium amide compound involving:

(1) reacting an amine with a **lithiated** base material to produce a first reaction mixture comprising a **lithium** amide;

(2) adding a hafnium halide to the first reaction mixture;

(3) reacting the **lithium** amide with the hafnium halide to produce a second reaction mixture comprising the liquid hafnium amide compound; and

(4) separating the liquid hafnium amide compound from the second reaction mixture.

USE - For the one pot production of organometallic compounds e.g. a transition metal-containing amide, alkoxide, diketonate, cyclopentadienide, imide, particularly liquid hafnium amide, hafnium (IV) tert-butoxide, hafnium (IV) acetylacetonate, bis(cyclopentadienyl)hafnium dichloride and tert-butylimidobis(dimethylamino)hafnium useful for forming metal oxide films, particularly in thin film deposition.

ADVANTAGE - The method generates organometallic compound precursors that have varied chemical structures and physical properties. The method provides final products on a large scale since it can be conducted using

the same equipment, some of the same reagents and process parameters can easily be adapted to manufacture a wide range of products. The method provides for the synthesis of organometallic compounds, where all manipulations are carried out in a single vessel, and the steps do not require the isolation of an intermediate complex. The method enables the production of multi-kilogram lots of high purity organometallic compound precursors, e.g. hafnium amide.

The method produces a key, solid, raw material in-situ from liquid components. An in-line filtration or decantation step may be utilized to produce an easily distillable solution, thus minimizing exposure of moisture sensitive mixtures. The chemical vapor deposition/atomic layer deposition organometallic precursors may be utilized to form films as the first next generation high K materials to replace silicon dioxide at and/or beyond the 65 nm technology node. The overall advantage of the method is a simpler process that utilizes less expensive materials and allows for larger batch sizes. These factors translate to an economic advantage. With no loss in yield compared to prior art methods, this method avoids labor-intensive and waste generating material manipulations. The method also eliminates the formation and isolation of an intermediate, as well as reduces the amount of materials (e.g. chemical reagents, glassware) required substantially. Also, because all transformations occur in one vessel until the final product is isolated, all compounds (e.g. side-products) are confined to one location. The method provides organometallic compounds in a yield of at least 0.25 (preferably 0.5, especially 1) kg or at least 75 - 99 (preferably 80 - 99)%.

Dwg.0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: A05-H01B; A12-W11; A12-W12C; E05-A01; E05-L01; E05-M01; E05-M03C; E05-N01; E05-N03A; E05-V01; L04-C12; L04-C12A

TECH UPTX: 20050517

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The hydrocarbon or heteroatom-containing material is an alcohol, diketone, cyclopentadiene, imine or hydrocarbon (preferably alkoxide, diketonate, cyclopentadienide or imide). The base material has a pKa greater than 10 and is selected from **butyl lithium** or **methyl lithium**. The solvent is selected from an optionally saturated hydrocarbon, aromatic hydrocarbon, aromatic heterocycle, alkyl halide, silylated hydrocarbon, ether, polyether, thioether, ester, thioester, lactone, polyamine and/or other aprotic solvents (preferably hexane and/or tetrahydrofuran (THF)).

Preferred Method: The metal source compound is added to the first reaction mixture at ambient temperature or at a temperature greater than ambient temperature.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Components: The hydrocarbon or heteroatom-containing material is an amine or halogen (preferably **lithiated** amide). The base material is selected from NaH, CaH or a **lithium** amide. The metal source compound is of formula MXn (preferably HfCl4, HfF4, HfBr4, HfI4 or Hf(OTf)4, especially HfCl4). The solvent is selected from amide, amine, nitrite and/or silicone oil.

M = transition metal (preferably hafnium, titanium, zirconium, tantalum or molybdenum);

X = halide;

n = 3, 4 or 5.

ABEX UPTX: 20050517

EXAMPLE - To a hexane solution of n-BuLi (n-**butyl lithium**) (3.6 l) was added with stirring, ethylmethylamine (205 g)

slowly at a rate such that the reaction mixture temperature was kept under 10degreesC. After the addition was complete for 2 hours, the reaction mixture was warmed slowly to 20degreesC and stirring was continued overnight for 16 hours. Anhydrous inhibitor-free tetrahydrofuran (THF) (0.2 l) was added to the white suspension. HfCl4 (250.1 g) was added slowly (for two hours), and the observed exothermic response registered a maximum temperature of 45degreesC. After the addition, the mixture was allowed to stir for 4 days. After basic work up, tetrakis(ethylmethylamino)hafnium (262 g, 82%) was obtained as a clear, slightly pale-yellow liquid.

L146 ANSWER 83 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-682725 [67] WPIX
DOC. NO. CPI: C2004-243215
TITLE: Manufacture of perfluoro alkyl imide used as organic ion conductor, involves reacting specific acid anhydride with primary amine, and tertiary amine, heterocyclic amine or aromatic amine in optional presence of solvent.
DERWENT CLASS: E19
PATENT ASSIGNEE(S): (KAND) KANTO DENKA KOGYO KK
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 2004269491	A	20040930	(200467)*		13	C07C231-02

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2004269491	A	JP 2003-324431	20030917

PRIORITY APPLN. INFO: JP 2003-44686 20030221
INT. PATENT CLASSIF.:
MAIN: C07C231-02
SECONDARY: C07C231-08; C07C231-12; C07C233-05; C07C235-88; C07C303-36; C07C303-38; C07C303-40; C07C311-09; C07C311-51; **C07F001-02**

BASIC ABSTRACT:
JP2004269491 A UPAB: 20041019
NOVELTY - A specific acid anhydride is reacted with primary amine, and tertiary amine, heterocyclic amine or aromatic amine in optional presence of solvent, and perfluoro alkyl imide is obtained.
DETAILED DESCRIPTION - Acid anhydride chosen from formulae: (Rf1Y1)2O and (Rf2Y2)2O is reacted with primary amine of formula: ArCH2NH2, and tertiary amine of formula: R1R2R3N, heterocyclic amine or aromatic amine in optional presence of solvent, and perfluoro alkyl imide of formula: ArCH2N(Y1Rf1)(Y2Rf2) is obtained.
Rf1,Rf2 = 1-6C linear or branched perfluoro alkyl;
Y1,Y2 = CO or SO2;
Ar = (un)substituted aromatic ring;and
R1-R3 = 1-5C alkyl.
INDEPENDENT CLAIMS are included for the following: (i) manufacture of perfluoro alkyl amide of formula: ArCH2NH(Y1Rf1), which involves reacting acid anhydride of formula: (Rf1Y1)2O with primary amine, and tertiary amine, heterocyclic amine or aromatic amine in optional presence of solvent; (ii) manufacture of perfluoro alkyl imide of formula: Rf1Y1-NH-Y2Rf2, which involves oxidizing, reducing or hydrolyzing

perfluoro alkyl imide of formula: ArCH2N(Y1Rf1)(Y2Rf2); and (iii) manufacture of perfluoro alkyl imide salt of formula: M(Rf1Y1-N-Y2Rf2), which involves carrying out cation exchange of perfluoro alkyl imide of formula: Rf1Y1-NH-Y2Rf2.

Rf1,Rf2,Y1,Y2 = same as defined above.

USE - For manufacturing perfluoro alkyl imide compound used as organic ion conductor, Lewis acid catalyst, and as synthetic intermediate.

ADVANTAGE - The perfluoro alkyl imide compound is easily and economically obtained at high yield and selectivity.

Dwg.0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: E05-A; E10-A08C; E10-A24A; E10-D03D; N02-F02
TECH UPTX: 20041019

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: Alternately, the perfluoro alkyl imide is obtained by reacting perfluoro alkyl amide with acid anhydride of formula: (Rf2Y2)O, and tertiary amine, heterocyclic amine or aromatic amine in optional presence of solvent.

Preferred Components: Palladium supporting activated carbon or palladium supporting alumina is used during reduction of perfluoro alkyl imide. **Lithium** hydroxide, **lithium** oxide, **lithium** carbonate, **lithium** chloride and/or **lithium** hydride is used during cation exchange of perfluoro alkyl imide.

ABEX UPTX: 20041019

EXAMPLE - Benzylamine (in g) (2.1), triethylamine (2), and methylene chloride (10) was added to trifluoro methanesulfonic acid anhydride (5.6), and stirred for 1 hour. The reaction solution was washed with water (100 mL), and organic layer separated by filtration was dried with magnesium sulfate, and solvent was distilled under reduced pressure. N-benzyl trifluoromethane sulfonamide of formula: PhCH2NHSO2CF3 was obtained at yield of 95%.

L146 ANSWER 84 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-853488 [79] WPIX
DOC. NO. CPI: C2003-240443
TITLE: Production of ethyldimethylamine and triethylamine for use in e.g. surfactants or antioxidants, comprising reacting mixture of diethylamine and dimethylamine with ethylene in presence of sodium diethylamide or dimethylamide.
DERWENT CLASS: B05 D22 D23 E16 F06 M14
INVENTOR(S): BENISCH, C; BOHLING, R; FUNKE, F; GAUS, G; MULLER, G; STEINBRENNER, U; BOEHLING, R; MUELLER, G
PATENT ASSIGNEE(S): (BADI) BASF AG; (BENI-I) BENISCH C; (BOHL-I) BOHLING R; (FUNK-I) FUNKE F; (GAUS-I) GAUS G; (MULL-I) MULLER G; (STEI-I) STEINBRENNER U
COUNTRY COUNT: 103
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2003074468	A1	20030912	(200379)*	GE	33	C07C209-60
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW						
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW						
DE 10209528	A1	20030918	(200382)			C07C209-60

AU 2003218681	A1	20030916	(200430)		C07C209-60
EP 1483230	A1	20041208	(200480)	GE	C07C209-60
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR					
KR 2004095260	A	20041112	(200519)		C07C209-60
BR 2003008205	A	20050426	(200530)		C07C209-60
US 2005154235	A1	20050714	(200547)		C07C029-08
JP 2005526743	W	20050908	(200559)	25	C07C209-60
MX 2004008531	A1	20050101	(200564)		C07C209-60
CN 1649825	A	20050803	(200578)		C07C209-60
ZA 2004007045	A	20051130	(200628)	39	C07C000-00

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2003074468	A1	WO 2003-EP2167	20030303
DE 10209528	A1	DE 2002-10209528	20020304
AU 2003218681	A1	AU 2003-218681	20030303
EP 1483230	A1	EP 2003-711916	20030303
		WO 2003-EP2167	20030303
KR 2004095260	A	KR 2004-713784	20040903
BR 2003008205	A	BR 2003-8205	20030303
		WO 2003-EP2167	20030303
US 2005154235	A1	WO 2003-EP2167	20030303
		US 2004-506514	20040903
JP 2005526743	W	JP 2003-572940	20030303
		WO 2003-EP2167	20030303
MX 2004008531	A1	WO 2003-EP2167	20030303
		MX 2004-8531	20040903
CN 1649825	A	CN 2003-809954	20030303
ZA 2004007045	A	ZA 2004-7045	20040903

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2003218681	A1	Based on	WO 2003074468
EP 1483230	A1	Based on	WO 2003074468
BR 2003008205	A	Based on	WO 2003074468
JP 2005526743	W	Based on	WO 2003074468
MX 2004008531	A1	Based on	WO 2003074468

PRIORITY APPLN. INFO: DE 2002-10209528 20020304
INT. PATENT CLASSIF.:
MAIN: C07C000-00; C07C029-08; C07C209-60
SECONDARY: C07C209-62; C07C211-04; C07C211-05; C07C211-08; **C07F001-02**; C07F001-04; C07F001-08

BASIC ABSTRACT:

WO2003074468 A UPAB: 20031208

NOVELTY - Ethyldimethylamine and triethylamine are prepared by reacting a mixture of diethylamine and dimethylamine with ethylene in the presence of an alkali metal dimethylamide, diethylamide or hydride catalyst.

DETAILED DESCRIPTION - Ethyldimethylamine (I) and triethylamine (II) are prepared by:

(i) reacting a mixture of diethylamine (III) and dimethylamine (IV) with ethylene in the presence of an alkali metal dimethylamide, diethylamide or hydride catalyst;

(ii) separating off the catalyst;

(iii) separating the resulting mixture by distillation into (I) and

(II) and possibly (III) and (IV); and
(iv) optionally recycling the catalyst and starting amines, to the reaction.
USE - Ethyldimethylamine obtained by this method is used in e.g. the foundry industry (cold-box process), and triethylamine is used for e.g. the production of surfactants, auxiliary materials for textiles and flotation processes, bactericides, corrosion and foam inhibitors, pharmaceutical additives and antioxidants for fats and oils.
ADVANTAGE - The method enables the production of ethyldimethylamine and triethylamine in a single stage, rather than separately, and the two products are easily separated from one another by distillation and the required amounts of each are easily controlled.
Dwg.0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B10-B04B; B12-M09; B14-A01; B14-S08; D09-A01C; D10-A03; E10-B04C2; E11-F; F03-C02B; M14-F01; M14-K; N05-A; N05-D; N07-D

TECH UPTX: 20031208
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Method: Reaction is carried out with excess (III), preferably with a ratio of (III)/(II) = (8-15):1, especially 10:1, and also with excess ethylene. The reactor feed stream contains 0-1 (preferably less than 0.1) wt.% ammonia, 0-5 (preferably less than 1) wt.% monoethylamine plus monomethylamine, 20-80 (preferably 40-70) wt.% (III) plus (IV), 0-50 (preferably less than 40) wt.% (II), 5-50 (preferably 10-30) wt.% ethylene, 0.01-20 (preferably 0.1-2) wt.% catalyst and 0-20 wt.% solvent for the catalyst.
Production of the metal amide and hydroamination are carried out in a single stage, and a co-catalyst may also be present. Part of the amine mixture obtained after removing the catalyst is separated off, part of the triethylamine (II) is isomerized by transalkylation with ammonia and the diethylamine obtained is separated and recycled as starting material.
Preferred Catalysts: The catalysts are compounds of **lithium**, sodium or potassium, preferably sodium diethylamide and/or dimethylamide, and are prepared before use from diethylamine or dimethylamine by known methods.
Preferred Co-catalysts: The co-catalysts are cyclic or open-chain imines or tautomeric enamines.

ABEX UPTX: 20031208
EXAMPLE - An autoclave containing sodium diethylamide (50 mmols) was charged with a mixture of diethylamine (5 mols) and dimethylamine (2 mols), heated to 70 degrees C with stirring and pressurized to 40 bar with ethylene. After 360 minutes under these conditions (i.e. with addition of ethylene to maintain the pressure), the reaction mixture (after deactivation of the catalyst with ethanol) contained 66.68% triethylamine and 17.98% N-ethyldimethylamine (by GC peak areas); the amount of ethylene added was 245.5 g and uptake of ethylene was 17.5 g/min at this point. Corresponding values after 30 minutes were 14.35%, 22.89%, 140.5 g and 83.5 g/min.

L146 ANSWER 85 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-450571 [43] WPIX
DOC. NO. CPI: C2003-119895
TITLE: Production of alkali metal dialkylamide used as catalyst e.g. in trialkylamine production, comprises adding dialkylamine and butadiene in controlled amounts to a suspension of alkali metal in a solvent.
DERWENT CLASS: E12 E16
INVENTOR(S): BOHLING, R; FUNKE, F; HARDER, W; STEINBRENNER, U; BOEHLING, R; B6HLING, R

PATENT ASSIGNEE(S): (BADI) BASF AG; (BOHL-I) BOHLING R; (FUNK-I) FUNKE F; (HARD-I) HARDER W; (STEI-I) STEINBRENNER U
COUNTRY COUNT: 103
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 10155474	A1	20030522	(200343)*		10	C07F001-00
WO 2003042154	A2	20030522	(200344)	GE		C07C209-00
RW: AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW						
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW						
EP 1451141	A2	20040901	(200457)	GE		C07C209-00
R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR						
AU 2002363584	A1	20030526	(200464)			C07C209-00
US 2005038253	A1	20050217	(200514)			C07F001-04
JP 2005509020	W	20050407	(200524)		29	C07F001-04
CN 1639107	A	20050713	(200576)			C07C209-00
KR 2005044431	A	20050512	(200637)			C07C209-00
IN 2004001022	P4	20060203	(200639)	EN		C07C209-00

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 10155474	A1	DE 2001-10155474	20011112
WO 2003042154	A2	WO 2002-EP12528	20021108
EP 1451141	A2	EP 2002-798307	20021108
		WO 2002-EP12528	20021108
AU 2002363584	A1	AU 2002-363584	20021108
US 2005038253	A1	WO 2002-EP12528	20021108
		US 2004-495356	20041008
JP 2005509020	W	WO 2002-EP12528	20021108
		JP 2003-543991	20021108
CN 1639107	A	CN 2002-824833	20021108
KR 2005044431	A	WO 2002-EP12528	20021108
		KR 2004-707215	20040512
IN 2004001022	P4	WO 2002-EP12528	20021108
		IN 2004-CN1022	20040512

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1451141	A2	Based on	WO 2003042154
AU 2002363584	A1	Based on	WO 2003042154
JP 2005509020	W	Based on	WO 2003042154
KR 2005044431	A	Based on	WO 2003042154

PRIORITY APPLN. INFO: DE 2001-10155474 20011112
INT. PATENT CLASSIF.:
MAIN: C07C209-00; C07F001-00; C07F001-04
SECONDARY: B01J031-02; B01J031-26; C07C209-60; C07C211-03; C07C211-35; C07C211-65; **C07F001-02**; C07F001-06
BASIC ABSTRACT:

DE 10155474 A UPAB: 20030707
NOVELTY - Production of alkali metal dialkylamides (I) comprises reacting a dialkylamine (II) with a metal in the presence of an electron donor, e.g. butadiene, by adding the dialkyl amine, present at 45 weight%, preferably 15 weight%, and the donor, present at 5 weight%, preferably 1.5 weight%,
to suspension of metal in solvent.
DETAILED DESCRIPTION - Production of alkali metal dialkylamides (I) comprises reacting a dialkylamine (II) with an alkali metal in the presence of an electron donor, e.g. 1,3-butadiene (preferred), isoprene, naphthalene and/or styrene, by ad8211
ding the dialkyl amine, present at 45 weight%, preferably 15 weight%, and the donor, present at 5 weight%, preferably 1.5 weight%, to suspension of metal in solvent.
INDEPENDENT CLAIMS are included for:
(1) a mixture containing (I), optionally solvent and secondary amine(s) from this method, in which the mole ratio of total hydroamination product to (I) is less than 1.5, preferably less than 1, most preferably less than 0.3; and
(2) a method for the production of trialkylamines from corresponding dialkylamines and olefins using (I) as catalyst.
USE - Alkali metal dialkylamides obtained by this method are used as catalysts e.g. for the production of trialkylamines from olefins and dialkylamines, especially triethylamine from ethylene and diethylamine.
ADVANTAGE - Enables the production of alkali metal dialkylamide catalysts from metal and dialkylamine in presence of 1,3-butadiene as electron donor, with the formation of only small amounts of the addition product butenyl-dialkylamine.
Dwg.0/0
FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: E05-A; E10-B04C2; N05-E01; N06-E01; N07-D08A
TECH UPTX: 20030707
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Solvents: The solvent is preferably saturated hydrocarbon, preferably low-boiling paraffins or their mixtures, or high-boiling paraffins (optionally branched and containing saturated cycloparaffins), mono-olefins and/or trialkylamines (as suspending media).
Preferred Amines: The amine is preferably alkylamines with linear or branched, cyclic or acyclic 1-50C alkyl groups (optionally with inert substituents), preferably methyl to pentyl, decyl, dodecyl, hexadecyl, cyclohexyl or cyclopentyl groups, especially amines with hydrogen in the beta-position to the nitrogen, more especially amines with ethyl or n-butyl groups, preferably dialkylamines.
Preferred Olefins: The olefin is preferably 2-20C olefins, preferably ethylene, propylene, 1-butene, 2-butene or cyclohexene, especially ethylene (for reaction to produce trialkylamines).
Preferred Method: The mole ratio of (electron donor):(metal) is 0.5-1.2, preferably 0.5-1.0, especially 0.5-0.7.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Metals: The metal is preferably sodium, potassium or **lithium**, especially Na or K, preferably Na, with a particle size distribution such that 50 wt.% of the particles are smaller than 1000 microm (preferably below 300 microm, especially below 100 microm).
ABEX UPTX: 20030707
EXAMPLE - A dispersion of 0.55 mol sodium metal in 220 g n-heptane and 7.001 g n-undecane was treated over 180 minutes at 30 degreesC with a mixture of 0.35 mol 1,3-butadiene and 1.05 mols diethylamine (DEA), so that the butadiene concentration was always below 0.24 wt.% and the DEA

concentration was always below 15 wt.% (mostly below 10 wt.%). GC analysis of the product showed that the amount of addition product (butenyldiethylamine (BueDEA)) was less than 0.0001 g after 11, 41, 60, 90 or 120 minutes. The amount increased to 0.13 g after 150 minutes, to 4.7 g after 180 minutes and to an unacceptable level (13 g) if the addition was continued to 230 minutes. The yield of sodium diethylamide (NaNEt2) was 85 %, with complete conversion of sodium and the mol ratio of (BueDEA):(NaNEt2) was ca. 0.2 after 180 minutes. If the reaction was carried out by adding DEA and butadiene to a dispersion of sodium in DEA and n-undecane, with DEA concentrations decreasing from 96 % to 79 % after 205 hours, the yield of NaNEt2 was only 7 % and the (BueDEA):(NaNEt2) ratio was ca. 15.

L146 ANSWER 86 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2003-156908 [15] WPIX
DOC. NO. CPI: C2003-040799
TITLE: Preparation of rac-bicalutamide useful for selectively reducing testosterone level, comprising addition of ethyl-(2-(4-fluorophenyl sulfone))-2-hydroxy propionic acid to 5-amino-2-cyano-benzotrifluoride and **butyl lithium** in organic solvent.
DERWENT CLASS: B05
INVENTOR(S): DOLITZKY, B; REANY, O; SHAMMAI, J; SHAMAI, J
PATENT ASSIGNEE(S): (BIOG) BIOGAL GYOGYSZERGYAR; (DOLI-I) DOLITZKY B; (REAN-I) REANY O; (SHAM-I) SHAMMAI J; (BIOG) BIOGAL GYOGYSZERGYAR RT; (TEVA-N) TEVA PHARM IND LTD; (TEVA-N) TEVA PHARM USA INC
COUNTRY COUNT: 101
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2002100339	A2	20021219	(200315)*	EN	11	A61K000-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW						
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW						
US 2003045741	A1	20030306	(200320)			C07C315-04
US 2004044249	A1	20040304	(200417)			C07C317-28
US 2004059147	A1	20040325	(200422)			C07C317-24
EP 1406855	A2	20040414	(200426)	EN		C07C069-675
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR						
US 6737550	B2	20040518	(200433)			C07C315-04
AU 2002312431	A1	20021223	(200452)			A61K000-00
US 2004167349	A1	20040826	(200457)			C07C317-00
US 2004176633	A1	20040909	(200459)			C07C317-24
US 2004176638	A1	20040909	(200459)			C07F001-02<--
US 6797843	B2	20040928	(200465)			C07C315-04
US 6849763	B2	20050201	(200511)			C07C053-122
US 6861557	B2	20050301	(200516)			C07C231-02
US 2005090682	A1	20050428	(200530)			C07C317-34
AU 2002312431	A8	20051020	(200615)			C07C069-675

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

WO 2002100339	A2		WO 2002-US18329	20020613
US 2003045741	A1	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
			US 2002-170721	20020613
US 2004044249	A1	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
		CIP of	US 2002-170721	20020613
			US 2003-606403	20030625
US 2004059147	A1	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
		Div ex	US 2002-170721	20020613
			US 2003-668982	20030922
EP 1406855	A2		EP 2002-739801	20020613
			WO 2002-US18329	20020613
US 6737550	B2	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
			US 2002-170721	20020613
AU 2002312431	A1		AU 2002-312431	20020613
US 2004167349	A1	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
		Div ex	US 2002-170721	20020613
			US 2004-791468	20040301
US 2004176633	A1	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
		Div ex	US 2002-170721	20020613
			US 2004-796313	20040308
US 2004176638	A1	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
		Div ex	US 2002-170721	20020613
			US 2004-796822	20040308
US 6797843	B2	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
		Div ex	US 2002-170721	20020613
			US 2003-668982	20030922
US 6849763	B2	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
		Div ex	US 2002-170721	20020613
			US 2004-796822	20040308
US 6861557	B2	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
		Div ex	US 2002-170721	20020613
			US 2004-796313	20040308
US 2005090682	A1	Provisional	US 2001-298009P	20010613
		Provisional	US 2002-371069P	20020409
		Div ex	US 2002-170721	20020613
		Div ex	US 2004-791468	20040301
		Div ex	US 2004-796313	20040308
		Div ex	US 2004-796822	20040308
			US 2004-994267	20041123
AU 2002312431	A8		AU 2002-312431	20020613

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1406855	A2	Based on	WO 2002100339
AU 2002312431	A1	Based on	WO 2002100339
US 2004167349	A1	Div ex	US 6737550
US 2004176633	A1	Div ex	US 6737550

US 2004176638	A1	Div ex	US 6737550
US 6797843	B2	Div ex	US 6737550
US 6849763	B2	Div ex	US 6737550
US 6861557	B2	Div ex	US 6737550
US 2005090682	A1	Div ex	US 6737550
		Div ex	US 6849763
		Div ex	US 6861557
AU 2002312431	A8	Based on	WO 2002100339

PRIORITY APPLN. INFO: US 2002-371069P 20020409; US
2001-298009P 20010613; US
2002-170721 20020613; US
2003-606403 20030625; US
2003-668982 20030922; US
2004-791468 20040301; US
2004-796313 20040308; US
2004-796822 20040308; US
2004-994267 20041123

INT. PATENT CLASSIF.:
MAIN: A61K000-00; C07C053-122; C07C069-675; C07C231-02; C07C315-04; C07C317-00; C07C317-24; C07C317-28; C07C317-34; **C07F001-02**
SECONDARY: C07C053-134; C07C231-08; C07C255-49; C07C255-50; C07C317-14

BASIC ABSTRACT:

WO2002100339 A UPAB: 20030303

NOVELTY - Preparation (P1) of rac-bicalutamide (I) (both R- and S-isomers) comprises addition of ethyl-(2-(4-fluorophenyl sulfone))-2-hydroxy propionic acid (i) to a mixture of 5-amino-2-cyano-benzotrifluoride and **butyl lithium** in an organic solvent, and recovering.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a rac-bicalutamide intermediate of formula (X) or (Y), which represent stable **organo lithium** salts of 4-fluorophenyl methyl sulfone and 5-amino-2-cyano-benzotrifluoride, respectively;

(2) preparation (P2) of the intermediates comprising addition of **butyl lithium** to a solution of a substrate (S1 or S2 representing 4-fluorophenyl methyl sulfone and 5-amino-2-cyano-benzotrifluoride for (X) and (Y) preparation, respectively) in the organic solvent.

(3) preparation (P3) of methyl 2,3-epoxy-2-methyl propionate comprising addition of methyl methacrylate to oxone dissolved in a basic solution, followed by addition of an acid;

(4) preparation (P4) of 2-hydroxy-2-methyl-3-(4-fluorophenylthio)propionic acid comprising addition of methyl-1,2-epoxy-2-methyl propionate to a solution of 4-fluorothiophenol in methanol, followed by addition of ethyl acetate and recovering the product;

(5) preparation of ethyl-(2-(4-fluorophenyl sulfone))-2-hydroxy propionate comprising addition of ethyl pyruvate to a mixture of 4-fluorophenyl methyl sulfone and **butyl lithium** in an organic solvent followed by recovering; and

(6) micronized (I) having a mean particle diameter of less than 200 mu m (preferably less than 100 mu m, especially less than 10 mu m).

ACTIVITY - None given in the source material.

MECHANISM OF ACTION - None given in the source material.

USE - Micronized (I) is used for preparation of a composition (claimed) useful for selectively reducing the testosterone level.

ADVANTAGE - The processes are economical, environmentally safe and feasible. The process is simple without involvement of any dangerous oxidizing compounds such as meta-chloroperbenzoic acid. The mean particle size of (I) provides an improved, reproducible and stable dissolution profile. (I) Also has an anti-androgen activity and selectively decreases the testosterone level without influencing the regulation mechanisms of the hypothalamus. (I) (Particularly the (R) isomer) is more active having lesser side effects such as headache and giddiness.

Dwg.0/2

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B10-A10; B10-A15; B10-C04B; B14-D02A
TECH UPTX: 20030303

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The basic solution is potassium hydroxide or sodium hydroxide (preferably 10M potassium hydroxide for (P3) and 2N sodium hydroxide for (P4)). Oxone is potassium hydrogen sulfate (KHSO5) (50%). The acid is hydrochloric, nitric or phosphoric acid (preferably 0.05 - 5 N hydrochloric acid).

Preferred Process: In (P1), (i) is added to the mixture at -65 degrees C. (I) Is obtained by evaporating a reaction mixture, preferably separating (i). In (P2), **butyl lithium** reacts with the substrate in the presence of an anion stabilizer (preferably 1,4-diazabicyclo(2.2.2)octane) at -40 to 10 (preferably -2 to 2) degrees C. In (P3), methyl methacrylate is added in methanol and the oxone solution containing the methyl methacrylate is maintained at pH 6. In (P4), the 4-fluorothiophenol solution is prepared by adding the basic solution under N2 flow. The reaction mixture in (P4) is obtained by stirring at room temperature for 90 minutes. The recovery in (P4) is by extraction (preferably chloroform extraction) and further solidification of the product.

ABEX UPTX: 20030303

SPECIFIC COMPOUNDS - Tetrahydrofuran or diethyl ether are specifically claimed as the organic solvent.

ADMINISTRATION - The dosage of (I) is 2 - 200 (preferably 5 - 100) mg/day and is administered orally or intravenously.

EXAMPLE - 4-Fluorophenyl methyl sulfone (4-FPMS) (5 g) and 1,4-diazabicyclo(2.2.2)octane (3.2 g) (DABCO) were dissolved in tetrahydrofuran (THF) and cooled to -2 degrees C in dry-ice acetone bath. A **butyl lithium** solution (2.5 M) in hexane (14.5 ml) was added to the cold THF dropwise at -2 to 2 degrees C. The mixture was then stirred for 1 hour and then ethyl pyruvate solution (3.67 g) in THF (30 ml) was added to the mixture at -65 degrees C. The mixture was stirred for 1 hour at -65 to -30 degrees C. 2N hydrochloric acid (HCl) was then added to the reaction and the mixture was warmed to room temperature. The reaction mixture was evaporated in vacuo, after which the residue was extracted with diethyl ether (3 x 100 ml). The combined ether extracts were dried over sodium bisulfate (NaSO4), filtered and purified by column chromatography using dichloromethane to give rac-ethyl-(2-(4-fluorophenyl sulfone))-2-hydroxy propionate.

L146 ANSWER 87 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2002-547841 [58] WPIX
DOC. NO. CPI: C2002-155384
TITLE: New substituted 1,4,7,10-tetraazacyclododecane **lithium** complexes, are crystalline, easily purified intermediates for gadolinium complex useful in magnetic resonance imaging.
DERWENT CLASS: B03

INVENTOR(S): BLASZKIEWICZ, P; HOFFMANN, H; PETROV, O; PLATZEK, J; MANN, H; HOFFMAN, H
PATENT ASSIGNEE(S): (SCHD) SCHERING AG
COUNTRY COUNT: 99
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2002048119	A2	20020620	(200258)*	GE	10	C07D257-00
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW						
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW						
DE 10064467	A1	20020711	(200258)			C07D257-02
US 2002128472	A1	20020912	(200262)			C07D257-02
AU 2002031659	A	20020624	(200267)			C07D257-00
DE 10064467	C2	20021031	(200273)			C07D257-02
NO 2003002523	A	20030604	(200356)			C07D257-00
EP 1343770	A2	20030917	(200362)	GE		C07D257-00
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR						
CZ 2003001641	A3	20030917	(200364)			C07D257-00
SK 2003000729	A3	20031104	(200377)			C07D257-00
KR 2003077555	A	20031001	(200410)			C07F001-02<--
HU 2003002563	A2	20031229	(200413)			C07D257-02
JP 2004515545	W	20040527	(200435)		25	C07D257-02
CN 1481371	A	20040310	(200437)			C07D257-02
MX 2003005240	A1	20031101	(200468)			C07D257-00
ZA 2003005421	A	20041124	(200481)		19	C07D000-00
US 6894151	B2	20050517	(200533)			C07F005-00
BR 2001016219	A	20060221	(200617)			C07D257-02
NZ 526478	A	20060428	(200632)			C07D257-00
CN 1229357	C	20051130	(200652)			C07D257-02

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002048119	A2	WO 2001-EP14283	20011205
DE 10064467	A1	DE 2000-10064467	20001215
US 2002128472	A1 Provisional	US 2000-258311P	20001228
		US 2001-13840	20011213
AU 2002031659	A	AU 2002-31659	20011205
DE 10064467	C2	DE 2000-10064467	20001215
NO 2003002523	A	WO 2001-EP14283	20011205
		NO 2003-2523	20030604
EP 1343770	A2	EP 2001-991788	20011205
		WO 2001-EP14283	20011205
CZ 2003001641	A3	WO 2001-EP14283	20011205
		CZ 2003-1641	20011205
SK 2003000729	A3	WO 2001-EP14283	20011205
		SK 2003-729	20011205
KR 2003077555	A	KR 2003-708035	20030616
HU 2003002563	A2	WO 2001-EP14283	20011205
		HU 2003-2563	20011205
JP 2004515545	W	WO 2001-EP14283	20011205
		JP 2002-549650	20011205
CN 1481371	A	CN 2001-820680	20011205

MX 2003005240	A1	WO 2001-EP14283	20011205
		MX 2003-5240	20030612
ZA 2003005421	A	ZA 2003-5421	20030714
US 6894151	B2 Provisional	US 2000-258311P	20001228
		US 2001-13840	20011213
BR 2001016219	A	BR 2001-16219	20011205
		WO 2001-EP14283	20011205
NZ 526478	A	NZ 2001-526478	20011205
		WO 2001-EP14283	20011205
CN 1229357	C	CN 2001-820680	20011205

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002031659	A Based on	WO 2002048119
EP 1343770	A2 Based on	WO 2002048119
CZ 2003001641	A3 Based on	WO 2002048119
SK 2003000729	A3 Based on	WO 2002048119
HU 2003002563	A2 Based on	WO 2002048119
JP 2004515545	W Based on	WO 2002048119
MX 2003005240	A1 Based on	WO 2002048119
BR 2001016219	A Based on	WO 2002048119
NZ 526478	A Based on	WO 2002048119

PRIORITY APPLN. INFO: DE 2000-10064467 20001215
INT. PATENT CLASSIF.:
MAIN: C07D000-00; C07D257-00; C07D257-02; **C07F001-02**; C07F005-00
SECONDARY: A61K031-395; A61K049-10
BASIC ABSTRACT:
WO 200248119 A UPAB: 20020924
NOVELTY - N-(2,3-dihydroxypropyl)-tris-carboxymethyl-tetraazacyclododecane **lithium** complexes (I) are new.
DETAILED DESCRIPTION - **Lithium** complexes of formula (I) are new.
X = n **Li**+ ions and m H atoms;
n, m = 0-3 (preferably 0.8-2.2);
m + n = 3; and
Y = Cl or Br.
An INDEPENDENT CLAIM is included for the preparation of (I).
USE - The use of (I) is claimed in the preparation of Gadobutrol (RTM; N-(1-hydroxymethyl-2,3-dihydroxypropyl)-1,4,7-tris-carboxymethyl-1,4,7,10-tetraazacyclododecane gadolinium complex) of formula (II), which is useful in diagnostic imaging, especially magnetic resonance imaging (MRI); referenced in DE4009119.
ADVANTAGE - (I) crystallizes from weakly acidic aqueous ethanol and is readily isolated in high purity, crystalline form. The **lithium** chloride or bromide formed during crystallization remains in solution, and is readily recovered as **lithium** hydroxide using an anion exchanger. By contrast, the preparation of the sodium analogs of (I) (see DE197241867) requires tedious isolation of sodium chloride from strongly acidic aqueous methanol. (I) forms the complex (II) with gadolinium complex in water, and (II) can be recovered in salt-free form (without use of ion exchangers) by crystallization from aqueous ethanol.
Dwg.0/0
FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: B05-A01B; B07-D13
TECH UPTX: 20020924

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preparation (claimed): Compounds (I) are prepared by reacting N-(6-hydroxy-2,2-dimethyl-1,3-dioxepan-5-yl)-1,4,7,10-tetraazacyclododecane (or its complex with **lithium** chloride or **lithium** bromide) with chloro- or bromoacetic acid in a polar solvent at 40-150 degrees C and pH 8-14.

ABEX UPTX: 20020924

EXAMPLE - A solution chloroacetic acid (38.5 g) in water (40 g) was cooled to 10 degrees C, treated with **lithium** hydroxide monohydrate (17.1 g) followed by a solution of N-(6-hydroxy-2,2-dimethyl-1,3-dioxepan-5-yl)-1,4,7,10-tetraazacyclododecane (41.25 g) in water (45 ml), heated to 65 degrees C, treated with **lithium** hydroxide monohydrate (14.6 g) in portions over 2 hours, stirred at 65 degrees C for a further 1 hour, acidified to pH 4 with hydrochloric acid, treated with ethanol (500 ml) over 75 minutes at 65-75 degrees C, boiled under reflux for 2 hours and cooled to room temperature. The obtained crystals were filtered off, washed with 2 x 20 ml 80% and 2 x 20 ml 90% ethanol and dried at 50 degrees C to give N-(1-hydroxymethyl-2,3-dihydroxypropyl)-1,4,7-tris-carboxymethyl-1,4,7,10-tetraazacyclododecane **lithium** complex (51.6 g, 81.5%) (Ia). A solution of (Ia) (51.6 g) in deionized water (51 g) was adjusted to pH 3.5 with concentrated hydrochloric acid, treated with gadolinium oxide (Gd_2O_3) (16.9 g), stirred for 1 hour at 90 degrees C (adjusting the pH to 7 with solid **lithium** hydroxide monohydrate if necessary), treated with ethanol (960 ml) over 2 hours at 78 degrees C, boiled under reflux for 5 hours and cooled to room temperature. The obtained crystals were filtered off, washed with ethanol (100 ml) and dried at 50 degrees C to give N-(1-hydroxymethyl-2,3-dihydroxypropyl)-1,4,7-tris-carboxymethyl-1,4,7,10-tetraazacyclododecane gadolinium complex (51.02 g, 85.73%), i.e. Gadobutrol (RTM). Recrystallization from aqueous ethanol gave completely salt-free Gadobutrol (RTM).

DEFINITIONS - Preferred Definitions:

One X group = **Li** and the other two H; and

Y = Cl.

L146 ANSWER 88 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 2003-770425 [73] WPIX

DOC. NO. CPI: C2003-211799

TITLE: Fluorine-containing lithio-oxiranes, useful for the preparation of intermediates for drugs and agricultural chemicals .

DERWENT CLASS: B05 C03

PATENT ASSIGNEE(S): (CENG) CENTRAL GLASS CO LTD

COUNTRY COUNT: 1

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 2002275170	A	20020925	(200373)*		11	C07D303-08

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 2002275170	A	JP 2001-72725	20010314

PRIORITY APPLN. INFO: JP 2001-72725 20010314

INT. PATENT CLASSIF.:

MAIN: C07D303-08

SECONDARY: C07C017-263; C07C022-08; C07C029-32; C07C033-40; C07C033-48; C07D301-26; C07D303-14; **C07F001-02**;

C07F005-02; C07F007-08
INDEX: C07M009:00

BASIC ABSTRACT:
JP2002275170 A UPAB: 20031112
NOVELTY - A chemical species active to an **electrophilic** reagent is new.
DETAILED DESCRIPTION - A chemical species active to an **electrophilic** reagent and stable at -98 deg. C is prepared by reacting an alcohol of formula (X)2CHC(OH)(R2)CF3 (I) with an **organic lithium** compound R2-**Li** in a solvent.
R1 = alkyl, alkenyl, alkynyl, aryl or heterocyclic ring each optionally substituted;
X = Cl, Br or I; and
R2 = alkyl, alkenyl or aryl.
INDEPNDENT CLAIMS also included for the:
(1) production of an olefin of formula R4C(R2)=C(R1)CF3(VI); and
(2) prodction of an olefin of formula R5-CH=CH-C(OH)(R1)CF3 (VII).
USE - The chemical species is used for the preparation of intermediates for drugs and agricultural chemicals.
Dwg.0/0
FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: B06-H; B07-A03; B07-H; B10-E04B; B10-E04D; B11-C01C; C06-H; C07-A03; C07-H; C10-E04B; C10-E04D; C11-C01C
TECH UPTX: 20031112
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preparation: (VI) is prepared by reacting a boron compound of formula R4BZ2 with the above formed chemical species. (VII) is prepared by reacting (I) with R5-(CH)2-**Li**.
Z = alkyl, alkenyl or alkynyl;
R4, R5 = R1
Preferred Species: The chemical species is an oxirane of formula:
R3 = monovalent organic group based on an **electrophilc** agent or **Li**.
ABEX UPTX: 20031112
EXAMPLE - A solution of R1MgBr (30 mmol) in tetrahydrofuran was added to 3,3-dichloro-1,1,1-trifluoroacetone (23 ml) at 0 degrees C and the mixture stirred at 0 degrees C for 10-30 minutes. The ice bath was removed and the mixture was stirred overnight, saturated ammonium chloride solution was added and the aqueous solution was extracted with diethyl ether. The extract was dried over magnesium sulfate and concentrated in vacuo and purified by a silica gel column chromatography to give the corresponding alcohol. The corresponding oxirane was derived from the alcohol.

L146 ANSWER 89 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-267418 [28] WPIX
DOC. NO. CPI: C2001-081137
TITLE: Ionic metal complex having a novel chemical structure is used as a supporting electrolyte for electrochemical devices, **lithium** (ion) batteries, and electrical double-layer capacitors.
DERWENT CLASS: A17 E12 E19 J03 J04 L03
INVENTOR(S): TAKAHASHI, M; TAKASE, H; TSUJIOKA, S
PATENT ASSIGNEE(S): (CENG) CENTRAL GLASS CO LTD
COUNTRY COUNT: 30
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 1074555	A2	20010207	(200128)*	EN	14	C07F005-06
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT						

	RO	SE	SI				
CA 2314739		A1	20010202	(200128)	EN		C07F005-04
JP 2001106694		A	20010417	(200128)		11	C07F019-00
CN 1282726		A	20010207	(200129)			C07C053-00
KR 2001049956		A	20010615	(200171)			C07F019-00
US 6407232		B1	20020618	(200244)			C07D279-00
KR 367254		B	20030110	(200338)			C07F019-00
JP 2005206611		A	20050804	(200551)		10	C07F005-04
CA 2314739		C	20060124	(200612)	EN		C07F009-00

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
EP 1074555	A2		EP 2000-115578	20000719
CA 2314739	A1		CA 2000-2314739	20000731
JP 2001106694	A		JP 2000-69201	20000313
CN 1282726	A		CN 2000-122469	20000802
KR 2001049956	A		KR 2000-44549	20000801
US 6407232	B1		US 2000-625349	20000725
KR 367254	B		KR 2000-44549	20000801
JP 2005206611	A	Div ex	JP 2000-69201	20000313
			JP 2005-114074	20050412
CA 2314739	C		CA 2000-2314739	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
KR 367254	B	Previous Publ.	KR 2001049956

PRIORITY APPLN. INFO: JP 2000-69201 20000313; JP 1999-219045 19990802

INT. PATENT CLASSIF.:

MAIN: C07C053-00; C07D279-00; C07F005-04; C07F005-06; C07F009-00; C07F009-6574; C07F019-00

SECONDARY: C07C053-15; C07C055-00; C07C055-32; C07C057-00; C07C057-52; C07C059-00; C07C059-135; C07D273-00; C07D279-04; C07D409-00; C07D493-00; C07F001-00; **C07F001-02**; C07F001-08; C07F003-00; C07F003-06; C07F005-00; C07F005-02; C07F007-00; C07F007-04; C07F007-07; C07F009-6571

ADDITIONAL: C08F004-06; C08F004-76; C08F010-00; H01M010-40

BASIC ABSTRACT:

EP 1074555 A UPAB: 20010522

NOVELTY - An ionic metal complex having a novel chemical structure is used as a supporting electrolyte for electrochemical devices, **lithium** (ion) batteries, and electrical double-layer capacitors.

DETAILED DESCRIPTION - The ionic metal complex is represented by the formula (1).

M = a transition metal such as elements of groups 3-11 or 12-15 of the periodic table;

Aa+ = a metal ion, onium ion or proton, provided that M is not B when Aa+ is Cs+;

a = 1-3;

b = 1-3;

p = b/a;

m = 1-3;

n = 0-4;

q = 0-1;

X1 and X2 = O,S or NR5R6;
R1 and R2 = each independently H, a halogen, 1-10C alkyl group or 1-10C halogenated alkyl group;
R3 = 1-10C (halogenated) alkylene group, 4-20C (halogenated) aryl group;
R4 = a halogen, 1-10C (halogenated) alkyl group, 4-20C (halogenated) aryl group, or X2R7;
R5 and R6 = H or 1-10C alkyl group;
R7 = 1-10C (halogenated) alkyl group, 4-20C (halogenated) aryl group.
An INDEPENDENT CLAIM is also included for synthesizing the above ionic metal complex by reacting a compound of the formula (2) with a metal complex represented by the formula (3). (2) contains at least two active hydrogens.
X1,R1-4, M, Aa+, q,a, b, p, m,n = as above;
R8 = a halogen, hydroxyl group, H, 1-10C (halogenated) alkyl group, 4-20C (halogenated) aryl group or X3R9;
X3 = O,S or NR5R6.
R5 and R6 = as above;
R9 = 1-10C (halogenated) alkyl group, 4-20C (halogenated) aryl group.
USE - The metal complex is used as a supporting electrolyte for **lithium** (ion) batteries, electrical double-layer capacitors and other electrochemical devices.
ADVANTAGE - The complexes are heat resistant, hydrolysis resistant, and have low toxicity and are recyclable.
Dwg.0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: A02-A06; A04-G01A; E05-A; E05-B02; E05-B03; E05-C01; E05-D; E05-E01; E05-F; E05-G01; E05-G07; E05-H; E05-J; E05-L; E05-M; E05-N; E05-P; J03-A; J04-X; L03-B03A; L03-E01C

TECH UPTX: 20010522
TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: Reacting is conducted in a solvent having a dielectric constant of at least 2 at 0-80 degreesC.

ABEX UPTX: 20010522
EXAMPLE - In a glove box having an atmosphere of a dew point of -50 degreesC, 20.2 g of hexafluoro-2-hydroxyisobutyric acid (HOC(CF3)2COOH) were dissolved in 20 ml of dimethyl carbonate. Next, 6.8 g of **lithium** tetrakis(methoxy)borate (LiB(OCH3)4) were slowly added to this solution. After this addition, the solution was heated to 60 degreesC and reacted for 3 hours. Dimethyl carbonate was removed the solution at 170 degreesC and 1 Torr, thereby obtaining 20.0 g of a white solid as a product. The product was identified by NMR and elementary analysis as being LiB(OC(CF3)2COO)2 having the following formula.

L146 ANSWER 90 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-148295 [16] WPIX
DOC. NO. NON-CPI: N2001-108678
DOC. NO. CPI: C2001-044118
TITLE: Preparation of benzene sulfonate **lithium** complex salts used in electrochemical cells comprises reacting substituted phenol with chlorosulfonic acid, isolating the intermediate and reacting with **lithium** tetramethanol borate.
DERWENT CLASS: E19 L03 X16
INVENTOR(S): DE MEIJERE, A; LEONOV, A; SCHMIDT, M; DEMEJER, A; RIAONOF, A; SCHMIT, M; DEMEIJERE, A; ANDREI, L; MEIJERE, A D
PATENT ASSIGNEE(S): (MERE) MERCK PATENT GMBH; (DMEI-I) DE MEIJERE A; (LEON-I)

LEONOV A; (SCHM-I) SCHMIDT M; (MEIJ-I) MEIJERE A D

COUNTRY COUNT: 32

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 19932317	A1	20010111	(200116)*		7	C07F005-02
EP 1069128	A2	20010117	(200116)	GE		C07F005-04
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI						
CA 2313603	A1	20010110	(200117)	EN		C07F005-04
BR 2000002667	A	20010313	(200118)			C07F001-02<--
CN 1280130	A	20010117	(200128)			C07F005-04
JP 2001055396	A	20010227	(200128)		9	C07F019-00
KR 2001049741	A	20010615	(200171)			C07F005-04
US 6441216	B1	20020827	(200259)			C07F005-04
US 2003028023	A1	20030206	(200313)			H01M006-18
US 6657072	B2	20031202	(200379)			C07F007-02
US 2004091785	A1	20040513	(200432)			C07F005-02
EP 1069128	B1	20041110	(200473)	GE		C07F005-04
R: DE FR GB						
DE 50008571	G	20041216	(200482)			C07F005-04
RU 2246499	C2	20050220	(200515)			C07F019-00
US 6864017	B2	20050308	(200518)			H01M006-04
CN 1177849	C	20041201	(200618)			C07F005-04

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
DE 19932317	A1		DE 1999-1032317	19990710
EP 1069128	A2		EP 2000-113144	20000629
CA 2313603	A1		CA 2000-2313603	20000707
BR 2000002667	A		BR 2000-2667	20000710
CN 1280130	A		CN 2000-120406	20000706
JP 2001055396	A		JP 2000-203763	20000705
KR 2001049741	A		KR 2000-39039	20000708
US 6441216	B1		US 2000-613293	20000710
US 2003028023	A1	Div ex	US 2000-613293	20000710
			US 2002-191479	20020710
US 6657072	B2	Div ex	US 2000-613293	20000710
			US 2002-191479	20020710
US 2004091785	A1	Div ex	US 2000-613293	20000710
		Div ex	US 2002-191479	20020710
			US 2003-697046	20031031
EP 1069128	B1		EP 2000-113144	20000629
DE 50008571	G		DE 2000-00008571	20000629
			EP 2000-113144	20000629
RU 2246499	C2		RU 2000-117945	20000710
US 6864017	B2	Div ex	US 2000-613293	20000710
		Div ex	US 2002-191479	20020710
			US 2003-697046	20031031
CN 1177849	C		CN 2000-120406	20000706

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 2003028023	A1	Div ex	US 6441216
US 6657072	B2	Div ex	US 6441216

US 2004091785	A1	Div ex	US 6441216
		Div ex	US 6657072
DE 50008571	G	Based on	EP 1069128
US 6864017	B2	Div ex	US 6441216
		Div ex	US 6657072

PRIORITY APPLN. INFO: DE 1999-19932317 19990710
INT. PATENT CLASSIF.:
MAIN: **C07F001-02**; C07F005-02; C07F005-04; C07F007-02; C07F019-00; H01M006-04; H01M006-18
SECONDARY: C07C303-00; C07C303-08; C07C303-28; C07C309-01; C07C309-42; C07C309-75; C07D213-59; C07D239-02; C07D239-26; C07D241-00; C07D241-02; C07D241-12; C07F007-04; C07F007-08; C07F007-18; H01M006-16; H01M010-26; H01M010-36; H01M010-40

BASIC ABSTRACT:

DE 19932317 A UPAB: 20010323

NOVELTY - Preparation of benzene sulfonate **lithium** complex salts comprises reacting 3,-,4-,5-,6-substituted phenol with chlorosulfonic acid in a solvent, isolating an intermediate product and reacting with **lithium** tetramethanol borate.

DETAILED DESCRIPTION - Preparation of compounds of formula (I) comprises reacting 3,-,4-,5-,6-substituted phenol with chlorosulfonic acid in a solvent, filtering and fractionally distilling this intermediate product of formula (II), further reacting with **lithium** tetramethanol borate in a solvent and isolating the product.

R1 and R2 = optionally bonded by a single or double bond and are phenyl, naphthyl, anthracenyl or phenanthrenyl, pyridyl, pyrazyl or pyrimidyl, or hydroxybenzocarboxyl, hydroxynapthalene carboxyl, hydroxybenzylsulfonyl or hydroxynaphthalenesulfonyl, all optionally substituted by 1-6C alkyl or alkoxy or F, Cl or Br;

R1 and R2 = H, 1-6C alkyl or tri(1-6C)alkylsilyl; and

R3 - R6 = optionally bonded by a single or double bond and are 1-6C alkyl or alkoxy, F, Cl or Br, or phenyl, naphthyl, anthracenyl or phenanthrenyl, pyridyl, pyrazyl or pyrimidyl, all optionally substituted by 1-6C alkyl or alkoxy or F, Cl or Br.

INDEPENDENT CLAIMS are included for the preparation of the intermediate product (II) as above and the use of (II) in the preparation of (I).

USE - (I) are used as an electrolyte in electrochemical cells (claimed).

ADVANTAGE - The preparation is simple.

Dwg.0/0

FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: E05-A; E05-C01; E10-A09B7; L03-E01C
EPI: X16-A02; X16-B01F; X16-J08

TECH UPTX: 20010323

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: (II) is suspended in an aprotic solvent (claimed).

ABEX UPTX: 20010323

EXAMPLE - 200 g 4-fluorophenol in 1300 ml CHCl3 was reacted with 131 ml chlorosulfonic acid at room temperature to give 5-fluoro-2-hydroxybenzenesulfonic acid. 302 g of this product was then reacted with 683 chlorotrimethylsilane, heated to boiling, a further 794 ml chlorotrimethylsilane added and, after work up, 13.35 g of the obtained 5-fluoro-2-trimethylsilyloxy benzenesulfonic acid trimethylsilyl ester was then reacted with 2.81 g **Li** tetramethanolaoborate(1-) and worked up to give **lithium**(5-fluoro-2-olato-benzosulfonato(2-O,O')borate(1-).

L146 ANSWER 91 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-102279 [11] WPIX
DOC. NO. CPI: C2001-029801
TITLE: New aluminosiloxane compound useful as siloxylating agent for e.g. the surface of glass products made from metallic silicate, thermosetting resins, cellulose, epoxy and pigments.
DERWENT CLASS: A26 E11 G02
INVENTOR(S): HAN, J R; YANG, J G; HAN, J; YANG, J
PATENT ASSIGNEE(S): (HANJ-I) HAN J; (YANG-I) YANG J; (HANJ-I) HAN J R; (YANG-I) YANG J G
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 2000071553	A1	20001130	(200111)*	EN	38	C07F007-18
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW						
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW						
AU 2000046215	A	20001212	(200115)			
KR 2000077357	A	20001226	(200134)			C08G077-00
EP 1189909	A1	20020327	(200229)	EN		C07F007-18
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI						
KR 333404	B	20020425	(200270)			C08G077-00
US 6495708	B1	20021217	(200307)			C07F005-06
JP 2003500411	W	20030107	(200314)		43	C07F019-00
EP 1189909	B1	20031022	(200373)	EN		C07F007-18
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE						
DE 60006111	E	20031127	(200403)			C07F007-18
JP 3643535	B2	20050427	(200529)		24	C07F019-00

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000071553	A1	WO 2000-KR506	20000520
AU 2000046215	A	AU 2000-46215	20000520
KR 2000077357	A	KR 2000-27200	20000520
EP 1189909	A1	EP 2000-927910	20000520
		WO 2000-KR506	20000520
KR 333404	B	KR 2000-27200	20000520
US 6495708	B1	WO 2000-KR506	20000520
		US 2001-762947	20010214
JP 2003500411	W	JP 2000-619809	20000520
		WO 2000-KR506	20000520
EP 1189909	B1	EP 2000-927910	20000520
		WO 2000-KR506	20000520
DE 60006111	E	DE 2000-00006111	20000520
		EP 2000-927910	20000520
		WO 2000-KR506	20000520
JP 3643535	B2	JP 2000-619809	20000520
		WO 2000-KR506	20000520

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000046215	A	Based on	WO 2000071553
EP 1189909	A1	Based on	WO 2000071553
KR 333404	B	Previous Publ.	KR 2000077357
US 6495708	B1	Based on	WO 2000071553
JP 2003500411	W	Based on	WO 2000071553
EP 1189909	B1	Based on	WO 2000071553
DE 60006111	E	Based on	EP 1189909
		Based on	WO 2000071553
JP 3643535	B2	Previous Publ.	JP 2003500411
		Based on	WO 2000071553

PRIORITY APPLN. INFO: KR 1999-18491 19990521
INT. PATENT CLASSIF.:
MAIN: C07F007-18; C07F019-00; C08G077-00
SECONDARY: C07F007-08; C08G077-58; C08G079-10
ADDITIONAL: **C07F001-02**; C07F005-06; C07F007-21
BASIC ABSTRACT:
WO 200071553 A UPAB: 20010224
NOVELTY - Aluminosiloxane compounds of formula (I) and (II) are new.
DETAILED DESCRIPTION - Aluminosiloxane compound of formula (I) is new.
R = 1-6C alkyl or phenyl; and
n = 6 - 90.
INDEPENDENT CLAIMS are also included for
(a) An aluminosiloxane compound of formula (II).
M = alkali metal.
(b) Processes for preparing (I) and (II).
(c) A siloxylating agent comprising (I) or (II).
USE - As siloxylating agent for the surface of glass products made from metallic silicate, thermosetting resins, cellulose, epoxy, pigments made from various metallic oxides and other microorganisms.
ADVANTAGE - The aluminosiloxane compounds are prepared from waste silicone compounds and have improved gloss, flexibility, water repellent heat stability and weatherability. This decreases the pollution caused by such compounds.
Dwg.0/7
FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: A06-A00E1; A10-E14; A10-E22; A12-B01C; A12-B05; E05-A; E05-B03; E05-E01; E05-E02C; G02-A05
TECH UPTX: 20010224
TECHNOLOGY FOCUS - POLYMERS - Preparation: Compound (II) is prepared as follows:
(A) The siloxane alkali metal salt of formula (III).
R' = H or R; and
m = 3 - 6
is reacted with aluminum compound and secondary or tertiary alcohol to produce a hydrophilic compound of formula (IV)
R'' = R' or M (at least one R'' is different from R');
m' = numbers which make n from 6-90.
(B) compound (IV) is reacted with hydrohalic acid at pH 7-8 to produce an oil-miscible compound of formula (V);
(C) compound (V) is heated to 80-220 degreesC.
Compound (I) is prepared as follows: compound (II) is reacted with (1) compound of formula (VI)
NR'3HX (VI)
X = halogen

in a non polar solvent or (2) compound of formula (VII)
R''' = 1-6C alkyl
is reacted with aluminum compound and secondary or tertiary alcohol. The alcohol is then removed.
Preferred Process: The n value in compound (II) finally produced is adjusted by controlling the amount of aluminum compound used in step (A). The aluminum compound is used in an amount to make the Si/Al mole ratio in compound (II) 12-180 in step (A). Aluminum metal, hydroxide, oxide, alkali metal salt, halide or inorganic acid salt of aluminum is used as the aluminum compound in step (A). In step (B) a basic compound (preferably ammonia gas or ammonia water) is added to the reaction solution containing the compound (IV) to make the solution alkaline. Then hydrohalic acid (preferably hydrochloric acid, hydrobromic acid or hydroiodic acid) is added to control the pH to 7-8. Compound (VI) is used in an equimolar amount to the compound (II). Step (2) is carried out at 60-80 degreesC.

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Reagents: The aluminum compound is aluminum metal, hydroxide, oxide, alkali metal salt, halide or inorganic acid salt of aluminum. The basic compound is ammonia gas or ammonia water. The hydrohalic acid is HCl, HBr or HI.

ABEX UPTX: 20010224

EXAMPLE - Siloxane alkali metal salt of formula (CH3)2CH-O-(Si(CH3)2O)3-Na (IIIa) (100 ml) was concentrated to 50% siloxane content. To this was added sodium aluminate (6 g), distilled water (3 ml) and isopropyl alcohol (50 ml). The mixture was stirred vigorously for 3 hours, for 1 hour at 40 degreesC and then for one hour at 60 degreesC. To the pale-brown transparent liquid was added the compound (IIIa) (30 ml) to give a hydrophilic aluminosiloxane metal salt. To the salt (IV) was added 28% ammonia water (20 ml) and stirred for 2 hours. Concentrated hydrochloric acid was slowly added dropwise under stirring to get 7.7 pH. The solution was stirred for one hour at 60 degreesC and cooled. n-Hexane (100 ml) was added, the solution stirred for 30 minutes and allowed to stand. The lower layer was extracted with n-hexane, combined with the supernatant and washed with distilled water. The solvent was evaporated to give oil-miscible aluminosiloxane compound. This compound was heated to 150 degreesC to concentrate it. This was then cooled to give aluminosiloxane compound in the gel form. The concentrate was dissolved in n-hexane (300 ml). Ammonium chloride (3 g) was added and the mixture stirred for 4 hours. The supernatant was separated and heated to 150 degreesC to give aluminosiloxane compound (59 g) of average molecular weight 1000. This was heated at 30-40 degreesC for 24 hours and dried. 10 g of the compound was dissolved in xylene (30 ml). YD-011 (epoxy resin) with 800-1000 average molecular weight, prepared from bisphenol A and epichlorohydrin (2 g) was dissolved in the xylene. The solution was heated at 140-150 degreesC for 20 minutes and stirred to cool. G-1034 (hardening agent) (0.25 parts by weight) was added. Surface of flat glass was coated with the product in 0.3 - 0.4 mu thickness. The layer was hardened for 4 days. Adhesion force of the coating layer with the surface of glass was increased. No silicon oil separated from the surface. The surface was more elastic than that coated with epoxy resin which was not siloxylated. Also, the surface gloss was excellent.

L146 ANSWER 92 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1998-286367 [25] WPIX
DOC. NO. CPI: C1998-088579
TITLE: Stereospecific preparation of chiral 1-aryl- and 1-hetero aryl-2-substituted ethyl-2-amine compounds - by reacting chiral 2-amino-2-substituted ethyl alcohol with e.g. (tri halomethyl)sulphonyl halide giving aziridine intermediate, followed by conversion to **lithium**

salt intermediate.
DERWENT CLASS: B03 B05
INVENTOR(S): CASIMIR, J; GRONDARD, L; LEON, P; OBRIEN, M K; POWERS, M R; ROBIN, D; O'BRIEN, M K
PATENT ASSIGNEE(S): (AVET) AVENTIS PHARM PROD INC; (RHON) RHONE-POULENC RORER PHARM INC; (AVET) AVENTIS PHARM CO; (AVET) AVENTIS PHARM INC
COUNTRY COUNT: 79
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 9811064	A1	19980319	(199825)*	EN	15	C07C303-38
RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW						
W: AL AM AT AU AZ BA BB BG BR BY CA CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW						
AU 9742562	A	19980402	(199833)			C07C303-38
NO 9901023	A	19990302	(199924)			C07C303-38
EP 942900	A1	19990922	(199943)	EN		C07C303-38
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT RO SE SI						
SK 9900269	A3	19991008	(199952)			C07C303-38
BR 9711466	A	19990824	(200001)			C07C303-38
CN 1230176	A	19990929	(200003)			C07C303-38
CZ 9900721	A3	20000712	(200040)			C07C303-38
US 6127550	A	20001003	(200050)			C07D333-20
MX 9902406	A1	19990801	(200063)			C07C303-38
HU 2000000219	A2	20001228	(200111)			C07C303-38
KR 2000036007	A	20000626	(200111)			C07C303-38
JP 2001501922	W	20010213	(200112)		18	C07C213-00
AU 732332	B	20010412	(200128)			C07C303-38
KR 317871	B	20020118	(200254)			C07C303-38
US 6433172	B1	20020813	(200255)			C07D221-18
CN 1388119	A	20030101	(200328)			C07D203-24
IL 128813	A	20050220	(200522)			C07C209-88
CN 1112354	C	20030625	(200545)			C07C303-40

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9811064	A1		WO 1997-US15729	19970910
AU 9742562	A		AU 1997-42562	19970910
NO 9901023	A		WO 1997-US15729	19970910
			NO 1999-1023	19990302
EP 942900	A1		EP 1997-940882	19970910
			WO 1997-US15729	19970910
SK 9900269	A3		WO 1997-US15729	19970910
			SK 1999-269	19970910
BR 9711466	A		BR 1997-11466	19970910
			WO 1997-US15729	19970910
CN 1230176	A		CN 1997-197895	19970910
CZ 9900721	A3		WO 1997-US15729	19970910
			CZ 1999-721	19970910
US 6127550	A	Provisional	US 1996-26005P	19960912
		Cont of	WO 1997-US15729	19970910
			US 1999-266641	19990311
MX 9902406	A1		MX 1999-2406	19990311

HU 2000000219	A2		WO 1997-US15729	19970910
			HU 2000-219	19970910
KR 2000036007	A		WO 1997-US15729	19970910
			KR 1999-701970	19990309
JP 2001501922	W		WO 1997-US15729	19970910
			JP 1998-513724	19970910
AU 732332	B		AU 1997-42562	19970910
KR 317871	B		WO 1997-US15729	19970910
			KR 1999-701970	19990309
US 6433172	B1	Provisional	US 1996-26005P	19960912
		Cont of	WO 1997-US15729	19970910
		Div ex	US 1999-266641	19990311
			US 1999-426403	19991025
CN 1388119	A	Div ex	CN 1997-197895	19970910
			CN 2001-143342	19970910
IL 128813	A		IL 1997-128813	19970910
CN 1112354	C		CN 1997-197895	19970910

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9742562	A	Based on	WO 9811064
EP 942900	A1	Based on	WO 9811064
BR 9711466	A	Based on	WO 9811064
CZ 9900721	A3	Based on	WO 9811064
HU 2000000219	A2	Based on	WO 9811064
KR 2000036007	A	Based on	WO 9811064
JP 2001501922	W	Based on	WO 9811064
AU 732332	B	Previous Publ.	AU 9742562
		Based on	WO 9811064
KR 317871	B	Previous Publ.	KR 2000036007
		Based on	WO 9811064
US 6433172	B1	Div ex	US 6127550
IL 128813	A	Based on	WO 9811064

PRIORITY APPLN. INFO: US 1996-26005P 19960912; US 1999-266641 19990311; US 1999-426403 19991025

INT. PATENT CLASSIF.:

MAIN: C07C209-88; C07C213-00; C07C303-38; C07C303-40; C07D203-24; C07D221-18; C07D333-20

SECONDARY: C07B053-00; C07C211-26; C07C211-27; C07C215-08; C07C303-00; C07C307-00; C07C311-03; C07C311-16; C07D203-04; C07D333-04; C07D333-28; **C07F001-02**

INDEX: C07M007:00

BASIC ABSTRACT:

WO 9811064 A UPAB: 19980624

The stereospecific preparation of a ((1-optionally substituted aryl)- or (1-optionally substituted heteroaryl))-2-substituted ethyl-2-amine (I), with chirality at the 2-position, comprises reacting a 2-amino-2-substituted ethyl alcohol, with chirality at the 2-position, with an ((optionally substituted aryl)- or (trihalomethyl) sulphonyl)-halide or anhydride in the presence of a base to form an ((N-arylsulphonyl)- or (N-trihalomethylsulphonyl))-2-substituted aziridine with chirality at the 2-position.

USE - (I) are useful as intermediates in the synthesis of cardiovascular agents, including antihypertensive agents, antiischaemic agents, cardioprotective agents which ameliorate ischaemic injury of myocardial infarct size consequent to myocardial ischaemia, and

antilipolytic agents which reduce plasma lipid levels, serum triglyceride levels and plasma cholesterol levels, and also of agents for treating central nervous system conditions e.g. schizophrenia and epilepsy.
Dwg.0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B07-H; B10-B04B

L146 ANSWER 93 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1998-145231 [13] WPIX
DOC. NO. CPI: C1998-047438
TITLE: Production of baccatin III, used in production of antitumour agents - by reacting 10-de-acetyl-baccatin III with a **lithium** base and then with an acylating agent.
DERWENT CLASS: B02
INVENTOR(S): SISTI, N J
PATENT ASSIGNEE(S): (NAPR-N) NAPRO BIO THERAPEUTICS INC
COUNTRY COUNT: 79
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
WO 9802427	A1	19980122	(199813)*	EN	14	C07D305-14
RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW						
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW						
AU 9738002	A	19980209	(199823)			C07D305-14
US 5750736	A	19980512	(199826)			C07D305-14
NZ 333889	A	19990329	(199918)			C07D305-14
NO 9806066	A	19990305	(199919)			C07D000-00
EP 918764	A1	19990602	(199926)	EN		C07D305-14
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI						
CN 1225089	A	19990804	(199949)			C07D305-14
BR 9710234	A	20000111	(200020)			C07D305-14
JP 2000514458	W	20001031	(200059)		13	C07D305-14
KR 2000023649	A	20000425	(200107)			C07D305-14
AU 731651	B	20010405	(200125)			C07D305-14
MX 9900448	A1	20001101	(200163)			C07D305-14
IL 127850	A	20011125	(200215)			C07D305-14
EP 918764	B1	20040512	(200431)	EN		C07D305-14
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI						
DE 69729100	E	20040617	(200440)			C07D305-14
CN 1096453	C	20021218	(200528)			C07D305-14

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9802427	A1	WO 1997-US12307	19970709
AU 9738002	A	AU 1997-38002	19970709
US 5750736	A	US 1996-678759	19960711
NZ 333889	A	NZ 1997-333889	19970709
		WO 1997-US12307	19970709
NO 9806066	A	WO 1997-US12307	19970709

		NO 1998-6066	19981222
EP 918764	A1	EP 1997-934954	19970709
		WO 1997-US12307	19970709
CN 1225089	A	CN 1997-196319	19970709
BR 9710234	A	BR 1997-10234	19970709
		WO 1997-US12307	19970709
JP 2000514458	W	WO 1997-US12307	19970709
		JP 1998-506245	19970709
KR 2000023649	A	KR 1999-700102	19990108
AU 731651	B	AU 1997-38002	19970709
MX 9900448	A1	MX 1999-448	19990108
IL 127850	A	IL 1997-127850	19970709
EP 918764	B1	EP 1997-934954	19970709
		WO 1997-US12307	19970709
DE 69729100	E	DE 1997-629100	19970709
		EP 1997-934954	19970709
		WO 1997-US12307	19970709
CN 1096453	C	CN 1997-196319	19970709

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9738002	A	Based on	WO 9802427
NZ 333889	A	Based on	WO 9802427
EP 918764	A1	Based on	WO 9802427
BR 9710234	A	Based on	WO 9802427
JP 2000514458	W	Based on	WO 9802427
AU 731651	B	Previous Publ.	AU 9738002
		Based on	WO 9802427
IL 127850	A	Based on	WO 9802427
EP 918764	B1	Based on	WO 9802427
DE 69729100	E	Based on	EP 918764
		Based on	WO 9802427

PRIORITY APPLN. INFO: US 1996-678759 19960711
INT. PATENT CLASSIF.:
MAIN: C07D000-00; C07D305-14
SECONDARY: **C07F001-02**
BASIC ABSTRACT:
WO 9802427 A UPAB: 19980330
Preferential acylation of 10-deacetyl-baccatin III at a C-10 position rather than a C-7 hydroxy position, comprises: (a) dissolving a selected quantity of 10-deacetyl-baccatin III of formula (Ia) in an ether solvent to form a first solution at a first temperature; (b) mixing at least one equivalent of a **lithium** base into the first solution to form a second solution; (c) adding at least an equivalent of an acylating agent to the second solution at a second temperature to form a third solution; and (d) quenching the third solution with a quenching compound that is effective to eliminate excess **lithium** base and the acylating agent, to produce a fourth solution containing baccatin III of formula (Ib). Also claimed is an intermediate of formula (Ic) for production of baccatin III. Q = OH in (Ia); OAc in (Ib); and **Li**+O- in (Ic).
USE - Baccatin III is used in production of antitumour agents.
ADVANTAGE - The process avoids the necessity of protecting the C-7 hydroxy position of 10-deacetyl-baccatin III and deprotecting following the acylation at the C-10 position. The process is relatively inexpensive.
Dwg.0/0
FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; GI; DCN

MANUAL CODES: CPI: B06-A03

L146 ANSWER 94 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1999-025727 [03] WPIX
DOC. NO. CPI: C1999-008092
TITLE: Preparation of mono- and di substituted N-hydroxyalkyl-tetra aza-cyclododecane derivatives used in preparation of NMR diagnostic agents - comprises reaction of 1,4,7,10-tetra aza-cyclododecane with epoxide in the presence of a **lithium** salt..
DERWENT CLASS: B03
INVENTOR(S): BLASZKIEWICZ, P; PETROV, O
PATENT ASSIGNEE(S): (SCHD) SCHERING AG
COUNTRY COUNT: 83
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
DE 19724186	A1	19981203	(199903)*		5	C07D257-02
WO 9855467	A1	19981210	(199904)	GE		C07D257-02
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW						
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW						
ZA 9804734	A	19990331	(199918)		19	C07D000-00
AU 9884327	A	19981221	(199919)			C07D257-02
US 5994536	A	19991130	(200003)			C07D487-22
NO 9905870	A	20000201	(200017)			C07D000-00
EP 986548	A1	20000322	(200019)	GE		C07D257-02
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI						
MX 9910356	A1	20000401	(200124)			C07D257-02
JP 2002508755	W	20020319	(200222)		21	C07D257-02
TW 450965	A	20010821	(200239)			C07D257-02
DE 19724186	C2	20020718	(200249)			C07D257-02
NO 313459	B1	20021007	(200273)			C07D257-02
EP 986548	B1	20030730	(200356)	GE		C07D257-02
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI						
DE 59809163	G	20030904	(200360)			C07D257-02
MX 208745	B	20020704	(200366)			C07D257-02
ES 2205523	T3	20040501	(200431)			C07D257-02

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19724186	A1	DE 1997-1024186	19970602
WO 9855467	A1	WO 1998-DE1523	19980528
ZA 9804734	A	ZA 1998-4734	19980602
AU 9884327	A	AU 1998-84327	19980528
US 5994536	A	US 1998-88700	19980602
NO 9905870	A	WO 1998-DE1523	19980528
		NO 1999-5870	19991201
EP 986548	A1	EP 1998-934857	19980528
		WO 1998-DE1523	19980528
MX 9910356	A1	MX 1999-10356	19991111
JP 2002508755	W	WO 1998-DE1523	19980528
		JP 1999-501299	19980528

TW 450965	A	TW 1998-108521	19980601
DE 19724186	C2	DE 1997-1024186	19970602
NO 313459	B1	WO 1998-DE1523	19980528
		NO 1999-5870	19991201
EP 986548	B1	EP 1998-934857	19980528
		WO 1998-DE1523	19980528
DE 59809163	G	DE 1998-509163	19980528
		EP 1998-934857	19980528
		WO 1998-DE1523	19980528
MX 208745	B	WO 1998-DE1523	19980528
		MX 1999-10356	19991111
ES 2205523	T3	EP 1998-934857	19980528

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9884327	A	Based on	WO 9855467
EP 986548	A1	Based on	WO 9855467
JP 2002508755	W	Based on	WO 9855467
NO 313459	B1	Previous Publ.	NO 9905870
EP 986548	B1	Based on	WO 9855467
DE 59809163	G	Based on	EP 986548
		Based on	WO 9855467
ES 2205523	T3	Based on	EP 986548

PRIORITY APPLN. INFO: DE 1997-19724186 19970602
INT. PATENT CLASSIF.:
MAIN: C07D000-00; C07D257-02; C07D487-22
SECONDARY: C07D405-04; **C07F001-02**; C07F009-6524; C07F009-655

BASIC ABSTRACT:

DE 19724186 A UPAB: 19990122

The following are claimed: (i) preparation of 1,4,7,10-tetraazacyclododecane compounds of formula (Ia) comprising reaction of 1,4,7,10-tetraazacyclododecane (optionally in the form of a salt) with an epoxide of formula (II) (in which hydroxy groups are optionally protected), in the presence of 0.8-1.1 (preferably 0.9-1.0) moles of a **lithium** salt at 40-150 deg. C; (ii) preparation of 1,4,7,10-tetraazacyclododecane compounds of formula (Ib), comprising reaction of 1,4,7,10-tetraazacyclododecane (optionally in the form of a salt) with (II) (in which hydroxy groups are optionally protected), in the presence of more than 1.11 (preferably 1.11-3.0) moles of a **lithium** salt at 40-150 deg. C; (iii) **lithium** complexes of (Ia) and (Ib); (iv) N-(6-hydroxy-2,2-dimethyl-1,3-dioxepan-5-yl)-1,4,7,10-tetraazacyclododecane (Ia') and N-(6-hydroxycyclohexyl)-1,4,7,10-tetraazacyclododecane (Ia''). R1 = -CH(R3)CH(R2)OH; R2, R3 = H; or R2+R3 = 4-7 membered ring which optionally contains 1-3 O atoms and is optionally substituted by 1-12C alkyl (itself optionally substituted by 1-3 1-6C alkyl or by 1-3 optionally protected OH groups).

USE- Mono- and disubstituted N- beta -hydroxyalkyl-1,4,7,10-tetraazacyclododecane derivatives are useful as intermediates in preparation of NMR diagnostic agents (see DE-A1 3625417 and EP448191).

ADVANTAGE- The process allows direct mono- and dialkylation of the tetraazacyclododecane ring and does not require difficult protection steps required in prior art processes. The use of varying amounts of the **lithium** salt allows the selectivity of the alkylation to be controlled.

Dwg.0/0

FILE SEGMENT: CPI

FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: B07-D13

L146 ANSWER 95 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1996-105173 [11] WPIX
DOC. NO. NON-CPI: N1996-088188
DOC. NO. CPI: C1996-033181
TITLE: Difunctional polymerisation initiator preparation for anionic polymerisation - by dimerising 1-halogen-3,3-di phenyl propane cpd. to form 1,1,6,6-tetra phenyl hexane cpd., for polymerising monomers for toner resin for low cost.
DERWENT CLASS: A60 A89 E14 G08 S06
INVENTOR(S): FULLER, T J
PATENT ASSIGNEE(S): (XERO) XEROX CORP
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
US 5487848	A	19960130 (199611)*			66	C07F001-02<--

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 5487848	A	US 1994-279610	19940725

PRIORITY APPLN. INFO: US 1994-279610 19940725
INT. PATENT CLASSIF.:
MAIN: **C07F001-02**
SECONDARY: C07F001-04; C07F001-06
BASIC ABSTRACT:
US 5487848 A UPAB: 19960315
A process comprises dimerising a 1-halogen-3,3-diphenyl propane cpd. to form a 1,1,6,6-tetraphenyl hexane cpd.
Also claimed are: (a) a process comprising reacting a 3,3-diphenyl-1-propanol cpd. with a 1-halogen-3,3-diphenyl propane cpd.; (b) a process comprising reacting a 1-halogen-3.3-diphenyl propane cpd. with allyl halogen; (c) a process comprising dimerising a halogen-diaryl propane cpd.; (d) a process comprising reacting a diaryl-propanol cpd. with a halogen-diaryl propane cpd; and (e) a process comprising reacting a halogen-diaryl propane cpd. with allyl halogen.
USEUsed as initiators in anionic polymerisation of monomers used as toner resins.
ADVANTAGEThe effective initiators are prepared by low cost, simple processes.
PREFERRED MATERIALSThe halogen in (I) and the allyl halogen are chlorine. The aryl gps. of the tetra-aryl hexane cpd., the ether cpd. and the diaryl-hexene cpd. opt. contain a substit. R(a). a = 1 - 5; and R = 2 - 25 C ether, 1 - 25 C alkoxy or aliphatic hydrocarbon.
Dwg.0/0
FILE SEGMENT: CPI EPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: A02-A; A10-B01; A12-L05C2; E10-H04; G06-G05
EPI: S06-A04C

L146 ANSWER 96 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN

ACCESSION NUMBER: 1996-078556 [09] WPIX
DOC. NO. CPI: C1996-026060
TITLE: Anionic initiator preparation for elastomer for increased rebound articles - by reacting **organo-lithium** cpd. with precursor functionalising agent formed by reacting di isopropenyl benzene with sec. amine, for polymer.
DERWENT CLASS: A60 E12
INVENTOR(S): ANTKOWIAK, T A; HALL, J E; LAWSON, D F
PATENT ASSIGNEE(S): (BRID) BRIDGESTONE CORP
COUNTRY COUNT: 8
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 693500	A1	19960124	(199609)*	EN	13	C08F004-48
R: DE ES FR GB IT						
JP 08048708	A	19960220	(199617)		11	C08F004-48
CA 2153945	A	19960119	(199619)			C07F001-02<--
US 5567815	A	19961022	(199648)		6	C07D223-04
EP 693500	B1	19990331	(199917)	EN		C08F004-48
R: DE ES FR GB IT						
DE 69508670	E	19990506	(199924)			C08F004-48
ES 2129709	T3	19990616	(199930)			C08F004-48

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 693500	A1	EP 1995-110370	19950703
JP 08048708	A	JP 1995-200392	19950713
CA 2153945	A	CA 1995-2153945	19950714
US 5567815	A	US 1994-276363	19940718
EP 693500	B1	EP 1995-110370	19950703
DE 69508670	E	DE 1995-608670	19950703
		EP 1995-110370	19950703
ES 2129709	T3	EP 1995-110370	19950703

FILING DETAILS:

PATENT NO	KIND	PATENT NO
DE 69508670	E Based on	EP 693500
ES 2129709	T3 Based on	EP 693500

PRIORITY APPLN. INFO: US 1994-276363 19940718
REFERENCE PATENTS: EP 594107; US 3903168; US 5153159
INT. PATENT CLASSIF.:
MAIN: C07D223-04; **C07F001-02**; C08F004-48
SECONDARY: C07D295-04
BASIC ABSTRACT:
EP 693500 A UPAB: 19960305
Preparation of an anionic initiator comprises reacting:
1) an **organolithium** cpds. with
2) a precursor functionalising agent formed by reacting:
a) a diisopropenyl benzene of formula (I), with
b) a sec. amine having a hydrogen substit. and otherwise being essentially free of **lithium**-reactive or alkylene reactive substits.
Two of Ra-Rf radicals = isopropenyl; and

the remaining Ra-Rf radicals = H, alkyl and cycloalkyl containing 1-6C atoms.

Also claimed is an anionic initiator of formula (II):

R' and R'' = alkyl, cycloalkyl, aryl, alkoxy, alkylalkoxy and arylalkyl substits., or

R' and R'' are linked together to form heterocyclic ring radical essentially free of substits. or unsubstituted. ring atoms that are reactive with **lithium** or alkylene gps.; and

R = alkyl, cycloalkyl, alkenyl, alkynyl, aryl and aralkyl having 1-20 C atoms and short chain length low mol. weight polymers from diolefin and vinyl aryl monomers having up to 25 units.

USE - The anionic initiator can be used to form polymer and copolymer elastomers which can then be used for tyres, power belts etc.

ADVANTAGE - Articles prepared from these (co)polymers show increased rebound, decreased rolling resistance and less heat build-up during mechanical stress operation. Polymer chains are produced at increased rates. The initiator is stable under semi batch and continuous polymerisation operations. Vulcanisable elastomeric cpds. are produced having reduced hysteresis at raised temps.

Dwg.0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; GI; DCN
MANUAL CODES: CPI: A02-A07B; E05-A
ABEQ US 5567815 A UPAB: 19961202

A method of preparing an anionic initiator by reacting:

(1) an **organolithium** compound with (2) a precursor functionalising agent formed by reacting (a) a diisopropenyl benzene of formula (I), wherein two of the Ra-Rf radicals are isopropenyl and the remaining Ra-Rf radicals are independently selected from the group consisting of hydrogen, alkyl and cycloalkyl containing 1 to 6 carbon atoms, with (b) a secondary amine having the structural formula (II), wherein R' and R'' are the same or different and are selected from the group consisting of C1-20 alkyl groups, C4-20 cycloalkyl groups, aryl groups, alkoxy groups, alkoxyalkyl and arylalkyl groups, or R' and R'' are linked to form -(CH2)p- wherein p is an integer from 3 to 20, or said secondary amine is a heterocyclic ring compound selected from the group consisting of: piperidine, pyrrolidine, hexamethyleneimine, dodecamethyleneimine, morpholine, thiomorpholine, N-methyl-piperazine, N-aryl-piperazine, 1-(2-pyridyl)-piperazine, pyrrole, 3-pyrroline, pyrazole, imidazole, indole, indoline and purine.

Dwg.0/0

L146 ANSWER 97 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1990-269647 [36] WPIX
DOC. NO. CPI: C1990-116587
TITLE: New amino-chromane and tetra hydro-naphthalene derivs. - useful as 5-hydroxy tryptamine 1A agonists for treating e.g. anxiety and depression.
DERWENT CLASS: B02 B05
INVENTOR(S): FLAUGH, M E; SCHAUS, J M; TITUS, R D
PATENT ASSIGNEE(S): (ELIL) LILLY & CO ELI
COUNTRY COUNT: 27
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 385658	A	19900905	(199036)*		33	
R: AT BE CH DE ES FR GB GR IT LI LU NL SE						
PT 93218	A	19900831	(199043)			
CA 2010542	A	19900827	(199046)			

HU 53354	T	19901029	(199049)			
AU 9050144	A	19901025	(199050)			
JP 02268151	A	19901101	(199050)			
CN 1045099	A	19900905	(199121)			
ZA 9001277	A	19911030	(199148)			
HU 65268	T	19940530	(199425)			C07C211-42
HU 209481	B	19940628	(199429)			C07C317-32
SU 1826966	A3	19930707	(199501)		13	C07C211-42
EP 385658	B1	19941228	(199505)	EN	51	C07C323-31
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE						
DE 69015384	E	19950209	(199511)			C07C323-31
ES 2065478	T3	19950216	(199513)			C07C323-31
IE 65769	B	19951115	(199605)			A61K031-135
IL 93464	A	19961016	(199648)			C07C317-34
IL 114715	A	19970110	(199715)			C07D311-12
PH 27444	A	19930702	(199721)			C07C323-31
IL 109647	A	19970415	(199726)			C07C211-59
US 5637624	A	19970610	(199729)		15	A61K031-135
CN 1120532	A	19960417	(199745)			C07C211-58
JP 2954255	B2	19990927	(199945)		20	C07C317-34
JP 11315063	A	19991116	(200005)		19	C07C317-36
JP 3000016	B2	20000117	(200008)		18	C07C317-36
CA 2362972	A1	19900827	(200216)	EN		C07D333-46
MX 200801	B	20010208	(200224)			C07C015-24
CA 2010542	C	20020514	(200240)	EN		C07C323-38
HU 221625	B1	20021228	(200308)			C07C211-42

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
EP 385658	A		EP 1990-301901	19900222
JP 02268151	A		JP 1990-44308	19900223
ZA 9001277	A		ZA 1990-1277	19900220
HU 65268	T		HU 1992-2449	19900226
HU 209481	B		HU 1990-1048	19900226
SU 1826966	A3		SU 1990-4743297	19900226
EP 385658	B1		EP 1990-301901	19900222
DE 69015384	E		DE 1990-615384	19900222
			EP 1990-301901	19900222
ES 2065478	T3		EP 1990-301901	19900222
IE 65769	B		IE 1990-684	19900226
IL 93464	A		IL 1990-93464	19900220
IL 114715	A		IL 1990-114715	19900220
PH 27444	A		PH 1990-40083	19900222
IL 109647	A		IL 1990-109647	19900220
US 5637624	A	Cont of	US 1989-315752	19890227
		Cont of	US 1991-739597	19910729
			US 1993-28642	19930309
CN 1120532	A	Div ex	CN 1990-100962	19900226
			CN 1995-106177	19900226
JP 2954255	B2		JP 1990-44308	19900223
JP 11315063	A	Div ex	JP 1990-44308	19900223
			JP 1999-5156	19900223
JP 3000016	B2	Div ex	JP 1990-44308	19900223
			JP 1999-5156	19900223
CA 2362972	A1	Div ex	CA 1990-2010542	19900221
			CA 1990-2362972	19900221
MX 200801	B		MX 1995-1209	19950306
CA 2010542	C		CA 1990-2010542	19900221

HU 221625	B1 Div ex	HU 1990-1048	19900226
		HU 1992-2449	19900226

FILING DETAILS:

PATENT NO	KIND	PATENT NO
HU 209481	B Previous Publ.	HU 53354
DE 69015384	E Based on	EP 385658
ES 2065478	T3 Based on	EP 385658
IL 114715	A Div ex	IL 109647
IL 109647	A Div ex	IL 93464
JP 2954255	B2 Previous Publ.	JP 02268151
JP 3000016	B2 Previous Publ.	JP 11315063
HU 221625	B1 Previous Publ.	HU 65268

PRIORITY APPLN. INFO: US 1989-315752 19890227; US
1991-739597 19910729; US
1993-28642 19930309
REFERENCE PATENTS: 2.Jnl.Ref; EP 272534; EP 279150; EP 41488; EP 52932;
01Jnl.Ref
INT. PATENT CLASSIF.: A01N031-13; A61K031-13; C07C013-48; C07C211-42;
C07C317-32; C07C321-24; C07C321-28; C07C323-31;
C07D213-70; C07D311-58; **C07F001-02**
MAIN: A61K031-135; C07C015-24; C07C211-42; C07C211-58;
C07C211-59; C07C317-32; C07C317-34; C07C317-36;
C07C323-31; C07C323-38; C07D311-12; C07D333-46
SECONDARY: A01N031-13; A61K031-00; A61K031-10; A61K031-13;
A61K031-35; A61K031-38; A61K031-40; A61K031-44;
A61K031-445; A61P043-00; C07B053-00; C07C013-48;
C07C039-10; C07C209-24; C07C211-29; C07C225-20;
C07C311-58; C07C321-24; C07C321-28; C07D213-70;
C07D213-89; C07D307-64; C07D311-02; C07D311-50;
C07D311-58; C07D311-74; C07D333-34; C07D405-12;
C07D407-12; C07D409-12; **C07F001-02**
INDEX: C07M007:00

BASIC ABSTRACT:

EP 385658 A UPAB: 19930928

Amine derivs. of formula (I) and their pharmaceutically acceptable acid addition salts are new. R = 1-4C alkyl, allyl or cyclopropylmethyl; R1 = H, 1-4C alkyl, allyl, cyclopropylmethyl or aryl-(1-4C)alkyl; R2 = H or Me; X = CH2 or O; R3 = 1-8C alkyl, opt. substd. aryl; aryl-(1-4C)alkyl (opt. substd.) or 5-7C cycloalkyl); n = 0-2.

Preparation of optically active 2-amino-1,2,3,4-tetrahydronaphthalene or 3-aminochromane comprises reacting the corresp. 2-tetralone or 3-chromanone with an optically active p-nitro-phenethylamine; separating the resulting 2-(alpha-methyl-p-nitrobenzyl) aminotetralin or 3-(alpha-methyl-p-nitrobenzyl) aminochromane into their optical isomers; and cleaving the p-nitrophenethyl gp. to give an optically active prod.

USE - (I) have high binding affinity to 5-HT1A (5-hydroxytryptamine 1A) receptors. Thus as (I) have 5-HT1A agonist activity, they are useful for treating e.g. sexual dysfunction, anxiety, depression, alcoholism, eating disorders (e.g. anorexia), pain, senile dementia and smoking. Dose is 0.01-20 (pref. 0.05-10, especially 0.1-5)mg/kg/day. Process described in (B) can be used to prepare optically active cpds. (I), or intermediates for (I).

0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN

MANUAL CODES: CPI: B06-A01; B06-A02; B10-B04B; B12-C06; B12-C10; B12-D01; B12-G04; B12-J05A; B12-J05B

ABEQ EP 385658 B UPAB: 19950207
A compound of the formula (I) in which R is C1-C4 alkyl, allyl, or cyclopropylmethyl; R1 is hydrogen C1-C4 alkyl, allyl, cyclopropylmethyl, or aryl(C1-C4-alkyl); R2 is hydrogen or methyl; X is -CH2- or -O-; R3 is C1-C8 alkyl, aryl, substituted aryl, aryl(C1-C4-alkyl), substituted aryl(C1-C4 alkyl), or C5-C7 cycloalkyl; n is 0, 1 or 2; and pharmaceutically acceptable acid addition salts thereof.
Dwg.0/0

ABEQ US 5637624 A UPAB: 19970716
A compound of the formula (I), in which R is C1-C4 alkyl, allyl, or cyclopropylmethyl;
R1 is hydrogen, C1-C4 alkyl, allyl, or cyclopropylmethyl;
R2 is hydrogen or methyl;
X is -CH2-;
R3 is C1-C8 alkyl, phenyl, phenyl substituted with C1-C3 alkyl, C1-C3 alkoxy, halo, hydroxy, C1-C3 alkylthio or trifluoromethyl, pyridyl, pyridyl substituted with C1-C3 alkyl, C1-C3 alkoxy, halo, hydroxy, C1-C3 alkylthio or trifluoromethyl, phenyl C1-C4 alkyl, phenyl C1-C4 alkyl substituted on the phenyl ring with C1-C3 alkyl, C1-C3 alkoxy, halo, hydroxy, C1-C3 alkylthio or trifluoromethyl;
n is 0, 1 or 2;
and pharmaceutically acceptable acid addition salts thereof.
Dwg.0/0

L146 ANSWER 98 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1989-305521 [42] WPIX
DOC. NO. CPI: C1989-135459
TITLE: Optically-active 3-phenyl glycidic acid ester cpds. and preparation - useful for preparation of diltiazem hydrochloride for coronary vaso-dilation.
DERWENT CLASS: B03
PATENT ASSIGNEE(S): (TANA) TANABE SEIYAKU CO
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
JP 01226881	A	19890911	(198942)*		9	
JP 05023264	B	19930402	(199316)		9	C07D301-02

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 01226881	A	JP 1988-52333	19880304
JP 05023264	B	JP 1988-52333	19880304

FILING DETAILS:

PATENT NO	KIND		PATENT NO
JP 05023264	B	Based on	JP 01226881

PRIORITY APPLN. INFO: JP 1988-52333 19880304
INT. PATENT CLASSIF.:
MAIN: C07D301-02
SECONDARY: C07B061-00; C07D303-48

ADDITIONAL: **C07F001-02**

BASIC ABSTRACT:

JP 01226881 A UPAB: 19930923

1. Optically-active trans-3-phenylglycidic acid ester derivs. of formula (I) are produced by treating a halogenoacetic acid ester of formula XCH2COOR2 (II) with a benzaldehyde cpd. of formula (III) in the presence of an optically-active **lithium** amide cpd. and an **alkyllithium** cpd. of formula (IV) to give a 3-phenylpropionic acid ester derivative of formula (V), and subjecting (V) to intramolecular ring-closing; where R1 is an ester residue; R2 is an ester residue; X is a halogen atom; ring A is a phenyl gp. opt. having a substitution gp.; one of Ra and Rb = H and the other = phenyl opt. having a substitution gp.; Rc = a lower alkyl or cycloalkyl gp. and Z = H, lower alkoxy or a N-containing hetero monocyclic gp.

USE/ADVANTAGE - Useful as a material for the synthesis of dilthiazeum hydrochloride useful as a coronary vasodilator or other various pharmaceuticals.

0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B07-A03

L146 ANSWER 99 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1989-280011 [39] WPIX
DOC. NO. CPI: C1989-123922
TITLE: 10-Amino indolo isoquinoline derivs. production - from new 2-alkoxy-pyridine cpds. and 2-substd. indole, cyclisation and reaction with amine, used as antitumour and anti-leukaemia agents.
DERWENT CLASS: B02
INVENTOR(S): BOUISSET, M; BOUSQUET, A; DORMOY, J; HEYMES, A; DORMOY, J R
PATENT ASSIGNEE(S): (SNFI) ELF SANOFI; (SNFI) SANOFI SA
COUNTRY COUNT: 17
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 334695	A	19890927	(198939)*	FR	58	
R: AT BE CH DE ES FR GB GR IT LI LU NL SE						
FR 2627493	A	19890825	(198941)			
PT 89775	A	19891004	(198945)			
JP 02111771	A	19900424	(199022)			
US 5079363	A	19920107	(199205)			
CA 1335203	C	19950411	(199522)			C07D471-04

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 334695	A	EP 1989-400500	19890222
FR 2627493	A	FR 1988-2156	19880223
JP 02111771	A	JP 1989-42898	19890222
US 5079363	A	US 1989-313545	19890222
CA 1335203	C	CA 1989-591161	19890215

PRIORITY APPLN. INFO: FR 1988-2156 19880223
REFERENCE PATENTS: EP 10029; FR 2436786
INT. PATENT CLASSIF.: A61K031-47; C07D040-04; C07D209-00; C07D213-64;

C07D213-82; C07D221-00; C07D263-06; C07D401-06;
C07D413-04; C07D471-04; **C07F001-02**; C07F003-02;
C07F005-00; C07F013-00

MAIN: C07D471-04

SECONDARY: A61K031-47; C07D040-04; C07D209-00; C07D213-64;
C07D213-82; C07D221-00; C07D263-06; C07D401-06;
C07D413-04; C07D471-14; **C07F001-02**; C07F003-02;
C07F005-00; C07F013-00

BASIC ABSTRACT:

EP 334695 A UPAB: 19940203

Production of indolo-isoquinoline derivs. of formula (I) and their pharmaceutically acceptable acid addition salts comprise (1) metallising alkoxypyridine (IIIa); (2) reacting the product (Na) with (aza)indole cpd. (Va) to give hydroxy cpd. (II); (3) cyclising this (opt. after N deprotection) to lactone (VIII); (4) reducing this to cyclic hemiacetal (IX); (5) cyclising this to 10-alkoxy cpd. (X), which (6) is reacted with amine H-Am. In formulae R1 and R1' = H or 1-4C alkyl; X =N or COR2; R2 = 1-4C alkyl or benzyl; Am = amino opt. substd. by -CHR5-(CH2)n-NR3R4; R3, R4 and R5 = H or 1-6C alkyl; n = 1-10; R = 1-4C alkyl; Y = 4,4-dimethyloxaolin-2-yl or CO.NR6R7; R6 and R7 = 1-4C alkyl; Z1 = **Li**, Mghalo, Mnhalo or Ce(halo)2; P = labile protecting gp.; R8 = COR1 or CON(OR7)R6; P' = P or H. Several modifications to the process are claimed.

The 2-alkoxypyridine cpds. of formula (A) are new; R10 = H, 1-4C alkyl, OH, N(OR7)R6; Z = Z1, -CO-R10 or (A1); W = CO or -C(OH)(R1)-.

USE/ADVANTAGE - (I) are known as antitumour and antileukaemia agents. This process allows them to be prepared on an industrial scale.

Dwg.0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B05-A01B; B05-A03; B06-D01; B06-D05; B06-D18; B07-D04; B12-G05; B12-G07

ABEQ US 5079363 A UPAB: 19930923

A new process for mfr. of isoquinoline derivs. of formula (I) comprises metallating (IIIa) into (IVa) and condensing this with (Va)., (or similarly condensing (IIIb), with (Vb)) to obt. cpd. (II). (II) is converted to lactone (VIII) then redn. to cyclic hemiacetal (IX) and cyclised to alkoxyisiquinoline (X), which is converted to (I) directly by catalytic reaction with H-Am or indirectly via chloro cpd. (XII).

R and R1 are each 1-4C alkyl; X is either N or C-OR2 with R2 is 1-4C alkyl or benzyl and R5 is H or 1-6C alkyl; n is 1-10; Y is either 4,4-dimethyl-2-oxazolinyl or -C(O)NR6R7 with R6 and R7 each 1-4C alkyl; Z1 is either **Li** or -MgHal, -MnHal, or -Ce(Hal)2; P is protecting gp.; R8 is -C(O)R1, or formula -C(O)-N(OR7)-R6; R9 is 1-4C alkyl; and M is **Li** or -MgHal. Am is NH2 opt. substd. by -CH(R5)-(CH2)n-NR3R4.

USE - (I) are antitumour and antileukaemic agents. @@

L146 ANSWER 100 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1986-184541 [29] WPIX
DOC. NO. CPI: C1986-079364
TITLE: Preparation of 2 substd. pyrrolo pyridine(s) - by protecting the 1 nitrogen atom, **lithiating** the 2 position, and with an **electrophilic** gp, used is anthelmintics intermediates.
DERWENT CLASS: B02 C02
INVENTOR(S): DORMOY, J R; HEYMES, A; HAYMES, A
PATENT ASSIGNEE(S): (SNFI) SANOFI SA
COUNTRY COUNT: 15
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 187631	A	19860716	(198629)*	FR	32	
R: AT BE CH DE FR GB IT LI LU NL SE						
FR 2574406	A	19860613	(198630)			
JP 61155385	A	19860715	(198634)			
DK 8505768	A	19860613	(198637)			
US 4831144	A	19890516	(198923)			
EP 187631	B	19900905	(199036)			
R: AT BE CH DE FR GB IT LI LU NL SE						
DE 3579577	G	19901011	(199042)			
CA 1299183	C	19920421	(199221)			C07D471-04

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 187631	A	EP 1985-870178	19851211
FR 2574406	A	FR 1984-19029	19841212
JP 61155385	A	JP 1985-280176	19851212
US 4831144	A	US 1988-141508	19880107
CA 1299183	C	CA 1985-497380	19851211

PRIORITY APPLN. INFO: FR 1984-19029 19841212
REFERENCE PATENTS: 1.Jnl.Ref
INT. PATENT CLASSIF.:
MAIN: C07D471-04
SECONDARY: C07D207-32; C07D209-00; C07D213-74; C07D221-00; **C07F001-02**; C07F007-08; C07F007-10

BASIC ABSTRACT:

EP 187631 A UPAB: 19930922

Electrophilic groups are attached to the 2-position of a 1H-pyrrolo (3,2-c) pyridine by treating 1H-pyrrolo(3,2-c) pyridine (I) at ambient temperature to 40 deg. C with a halide R-Hal (II), in a solvent with an alkali metal hydroxide and a phase transfer catalyst. The product is an N-protected pyrrolo pyridine (III) R = a labile protecting group Hal = Cl, Br, or I. The prod. (III) is treated with a **lithiating** agent which is either a **lithium** amide or an **alkyl lithium** at -80 to -20 deg. C in the presence of tetramethyl ethylene diamine. The **lithiated** product (IV) is condensed in a solvent at -80 deg. C to ambient temperature with a cpd. capable of replacing the **lithium** with an **electrophilic** group. Z = **electrophilic** group.

Preparation of compounds of formula (V) are also claimed in which R is as defined and Z is H, **Li**, lower alkyl, -COR2, -CR5R6OH or -Si(R6)3 R2 = H, lower alkyl, -OR3, or -N(R4)2 R3 = H or lower alkyl R4 = lower alkyl R5 = H or lower alkyl R6 = phenyl or lower alkyl.

USE - Intermediates, especially for biologically active materials such as the anthelmintics.

0/0

FILE SEGMENT: CPI
FIELD AVAILABILITY: AB; DCN
MANUAL CODES: CPI: B05-A01B; B05-B01B; B06-D05; C05-A01B; C05-B01B; C06-D05; N05-D

ABEQ EP 187631 B UPAB: 19930922

Method of fixing an **electrophilic** gp. in the 2-position of 1H-pyrrolo(3,2-c)pyridine derivs. characterised in that: a) 1H-pyrrolo(3,2-c)pyridine is reacted, at room temp. and in a solvent, with an alkali metal hydroxide and in the presence of an interphase transfer

catalyst then, at a temp. between room temp. and 40 deg C with a halide of general formula: R-Hal in which R represents a methoxymethyl, benzyloxymethyl, benzenesulphonyl, p-toluenesulphonyl or tert. butoxycarbonyl gp. and Hal represents a chlorine, bromine or iodine atom, to obtain the N-protected 1H-pyrrolo(3,2-c) pyridine derivs. of general formula (I) in which R has the same meaning as above. b) the N-protected 1H-pyrrolo(3,2-c)pyridine obtd. in paragraph a) above is reacted in a solvent, at a temp. between -80 deg C and -20 deg C and in the presence of tetramethylethylenediamine, with a **lithiation** agent which is either a **lithium** amide or an **alkyl lithium**, to obtain the 2-lithio derivs. of general formula (II) in which R has the same meaning as above. c) the 2-lithio deriv. obtained in paragraph b) above is condensed in a solvent and at a temp. between -80 deg C and room temp. with a reagent capable of producing an **electrophilic** gp., to obtain the 1H-pyrrolo(3,2-c)pyridine derivs. of formula I substitd. in the 2-position by an **electrophilic** gp.

ABEQ US 4831144 A UPAB: 19930922
1H-pyrrolo(3,2-c)pyridine deriv of formula (I), where R is protecting gp viz alkoxyalkyl, aralkoxyalkyl, carbalkoxyalkyl, and Z is H or **Li** , is new. Esp cpds are 1-benzene-sulphonyl -1H-pyrrolo(3,2-c)pyridine and 1-tert-butoxycarbonyl-1H-pyrrolo (3,2-c)pyridine and their 2-litho derivs. These cpds protected at the 1-function, are obtd by new process comprising fixing **electrophilic** gp in 2-position of the N-protected 1-position cpd by **lithiation** with **Li** amide or **alkyl Li** at -80 to -20 deg.C in presence of tetramethyldiamine, then condensing the 2-litho deriv so obtd with **electrophilic** gp reagent at -80 deg. C to RT.
USE - Chemical intermediates utilising liability of R10 or substn or modification at 2-position.

L146 ANSWER 101 OF 115 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1982-09553J [51] WPIX
TITLE: 1,3-Benzodiazepine derivs. and their intermediates - 2-phenethyl-tri-methyl-acetanilide derivs., used as antidepressants, analgesics and anticonvulsants.
DERWENT CLASS: B02 B05
INVENTOR(S): LEE, G E; LEE, T B K
PATENT ASSIGNEE(S): (HMRI) HOECHST ROUSSEL PHARM INC; (HMRI) HOECHST ROUSSEL PHARM INC
COUNTRY COUNT: 13
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC
EP 66773	A	19821215	(198251)*	EN	17	
R: AT BE CH DE FR GB IT LI NL SE						
KR 8802290	B	19881022	(198924)			
JP 03052453	B	19910812	(199136)			
JP 04217965	A	19920807	(199238)		4	C07D243-14
US 5349086	A	19940920	(199437)		5	C07C231-08
US 5489681	A	19960206	(199612)		5	C07D243-204

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
EP 66773	A		EP 1982-104546	19820525
JP 03052453	B		JP 1982-88956	19820527
JP 04217965	A	Div ex	JP 1982-88956	19820527
			JP 1991-61022	19820527

US 5349086	A	Cont of	US 1981-267990	19810528
		Div ex	US 1985-757765	19850723
		Cont of	US 1987-98210	19870918
		Cont of	US 1989-384115	19890721
		Cont of	US 1990-579262	19900907
		Cont of	US 1991-737610	19910729
		Cont of	US 1992-870772	19920421
			US 1992-980449	19921123
US 5489681	A	Cont of	US 1981-267990	19810528
		Div ex	US 1985-757765	19850723
		Cont of	US 1987-98210	19870918
		Cont of	US 1989-384115	19890721
		Cont of	US 1990-579262	19900907
		Cont of	US 1991-737610	19910729
		Cont of	US 1992-870772	19920421
		Div ex	US 1992-980449	19921123
			US 1994-304662	19940909

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 5349086	A	Div ex	US 4709093
US 5489681	A	Div ex	US 4709093
		Div ex	US 5349086

PRIORITY APPLN. INFO: US 1981-267990 19810528; US
1987-98210 19870918; US
1989-384115 19890721; US
1990-579262 19900907; US
1991-737610 19910729; US
1992-870772 19920421; US
1992-980449 19921123; US
1994-304662 19940909

REFERENCE PATENTS: EP 9800

INT. PATENT CLASSIF.:

MAIN: C07C231-08; C07D243-14; C07D243-204

SECONDARY: A61K031-55; C07C013-50; C07C087-50; C07C102-00; C07C103-44; C07C231-14; C07C233-43; C07D243-04; **C07F001-02**

BASIC ABSTRACT:

EP 66773 A UPAB: 19960417

N-(2-(2-amino -2-phenylethyl)phenyl-2,2-dimethyl propionamide derivs. of the formula (I) are new (where R1 is H or (1-5C) alkyl).

Preparation of 4,5-dihydro-4-phenyl- 3H-1,3-benzodiazepines (VII) and their salts by hydrolysis of (I) and cyclising the prod. (V) with orthoester (VI) (where R is H or (1-5C) alkyl and R2 is methyl or ethyl).

(I) are intermediates for (VII) which are antidepressants, analgesics and anticonvulsants.

FILE SEGMENT: CPI

FIELD AVAILABILITY: AB

MANUAL CODES: CPI: B06-D07; B10-B02F; B12-C06; B12-D01; B12-D04

ABEQ EP 66773 B UPAB: 19930915

N-(2-(2-amino 2-phenylethyl) phenyl)2,2-dimethyl propanamides of formula (I) are new. R1 is H or 1-5C alkyl.

They are prepd. e.g. by reacting an N-acylated O-toluidine of formula (II) with n-**alkyl lithium** and reacting this with an N-benzylidene amine of formula (III). The reaction is pref. carried out in an inert (a) ethereal or (b) hydrocarbon solvent and in an anhydrous atmosphere. (a) is pref. diethyl ether, tetrahydrofuran or dimethoxy

ethane. (b) is pref. hexane. The reaction is pref. carried out at -70 to 30, esp. -10 to 30 deg.C. for 0.5 to 5 hrs., esp. 1 to 2 hrs.
USE - As intermediates for 4,5-dihydro-4-phenyl-3H,-1,3 benzodiazepines which are antidepressants, analgesics and anticonvulsants.

ABEQ US 4709093 A UPAB: 19930915
N-(2-(2-Methylamino- 2-phenylethyl)phenyl-2, 2-dimethylpropan -amide of formula (II) is new. (II) may be prepd. e.g. by reacting an N-acylated o-toluidine (III) with n-**alkyl lithium** to form dilithio intermediate (IV) which gives (II) by quenching with N-benzylidene methylamine.
USE - Hydrolysis of (II) yields free base or salt which can be cyclised to form 4,5-dihydro-2,3-dimethyl- 4-phenyl-3H-1,3-benzodiazepine of formula (I). Useful as antidepressant, analgesic and anticonvulsant. Simple economical high yield prepn.

ABEQ US 5349086 A UPAB: 19941109
Prepn. of N-(2-(2-methylamino-2 -phenylethyl)phenyl)-2,2 -dimethylpropanamide of formula (II) comprises reacting an N-acylated o-toluidine of formula (III) with n-**alkyllithium** to provide a diLithio intermediate of formula (IV) and quenching it with N-benzylidenemethylamine. Pref. N-((2-methyl)-phenyl)-2,2-dimethylpropanamide is reacted with n-BuLi in THF and hexane in anhydrous atmos. at -10 to +30 deg C for 1-2 hrs. to form (IV) which is quenched with 1-2 molar equivs. of N-benzylaminemethylamine at 0-25 deg C for 5-60 mins. in anhydrous atmos.
USE - (II) is hydrolysed to free base of formula (V) which can be cyclised to 4,5-dihydro-2,3-dimethyl-4-phenyl-3H-1,3-benzodiazepine of formula (I) which is used as antidepressant, analgesic and anticonvulsant.
Dwg.0/0

ABEQ US 5489681 A UPAB: 19960322
A process for preparing 4,5-dihydro-2,3-dimethyl-4 -phenyl-3H-1,3-benzodiazepine or a pharmaceutically acceptable salt thereof, comprises (A) reacting N-((2-methyl)phenyl)- 2,2-dimethylpropan-amide with n-**alkyllithium** to provide a dilithio intermediate of the formula (I), (B) quenching the dilithio intermediate with N-benzylidenemethylamine to form N-(2-(2-methylamino-2-phenylethyl) phenyl)-2,2-dimethylpropanamide, (C) hydrolysing the N-(2-(2-methylamino-2-phenylmethyl) phenyl)-2,2-dimethylpropanamide to form N-methyl-2-amino-alpha-phenylphenethylamine as a free base or salt thereof, and (D) cyclising said N-methyl-2-amino-alpha-phenylphenethylamine by reaction with a compound of the formula (VI) or (VII) to form 4,5-dihydro-2,3-dimethyl-4-phenyl -3H-1,3-benzodiazepine or a pharmaceutically acceptable salt thereof.
Dwg.0/0

=> d ibib ed ab ind 102-115
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH, DISSABS' - CONTINUE? (Y)/N:y

L146 ANSWER 102 OF 115 MEDLINE on STN
ACCESSION NUMBER: 96071178 MEDLINE
DOCUMENT NUMBER: PubMed ID: 7479079
TITLE: Solid-phase synthesis of a nucleopeptide from the linking site of adenovirus-2 nucleoprotein, -Ser(p5'CATCAT)-Gly-Asp-. Convergent versus stepwise strategy.
AUTHOR: Robles J; Pedroso E; Grandas A
CORPORATE SOURCE: Departament de Quimica Organica, Facultat de Quimica, Universitat de Barcelona, Barcelona, Spain.

SOURCE: Nucleic acids research, (1995 Oct 25) Vol. 23, No. 20, pp. 4151-61.
Journal code: 0411011. ISSN: 0305-1048.
PUB. COUNTRY: ENGLAND: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199512
ENTRY DATE: Entered STN: 24 Jan 1996
Last Updated on STN: 24 Jan 1996
Entered Medline: 21 Dec 1995
ED Entered STN: 24 Jan 1996
Last Updated on STN: 24 Jan 1996
Entered Medline: 21 Dec 1995
AB The synthesis of a nucleopeptide with the sequence -Ser(p5'CATCAT)-Gly-Asp- has been undertaken by either convergent or stepwise solid-phase strategies, both of which use base-labile permanent protecting groups. The **coupling** of phosphitylated protected peptides onto oligonucleotide-resins did not afford the desired nucleopeptide, which was nevertheless obtained after oligonucleotide elongation at the hydroxyl group of the resin-bound peptide and deprotection under mild basic conditions. A preliminary study on the stability of different nucleopeptides to bases is also reported.
CT Adenoviruses, Human: CH, chemistry
Amino Acid Sequence
Ammonia: PD, pharmacology
Carbonates: PD, pharmacology
Comparative Study
*Deoxyribonucleoproteins: CS, chemical synthesis
Deoxyribonucleoproteins: DE, drug effects
Lithium Compounds: PD, pharmacology
Molecular Sequence Data
*Oligodeoxyribonucleotides: CS, chemical synthesis
Potassium: PD, pharmacology
Research Support, Non-U.S. Gov't
Serine: CH, chemistry
Viral Proteins: CH, chemistry
RN **1310-65-2 (lithium hydroxide)**; 56-45-1 (Serine); 584-08-7 (potassium carbonate); 7440-09-7 (Potassium); 7664-41-7 (Ammonia)
CN 0 (Carbonates); 0 (Deoxyribonucleoproteins); 0 (Lithium Compounds); 0 (Oligodeoxyribonucleotides); 0 (Viral Proteins)

L146 ANSWER 103 OF 115 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN DUPLICATE 48
ACCESSION NUMBER: 1993:121771 BIOSIS
DOCUMENT NUMBER: PREV199395065871
TITLE: Naphthalene-catalysed lithiation of functionalized chloroarenes: Regioselective preparation and reactivity of functionalized lithioarenes.
AUTHOR(S): Guijarro, Albert; Ramon, Diego J.; Yus, Miguel [Reprint author]
CORPORATE SOURCE: Dep. Quim. Org., Fac. Ciencias, Univ. Alicante, Apdo. 99, 03080 Alicante, Spain
SOURCE: Tetrahedron, (**1993**) Vol. 49, No. 2, pp. 469-482.
CODEN: TETRAB. ISSN: 0040-4020.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 27 Feb 1993
Last Updated on STN: 27 Feb 1993
ED Entered STN: 27 Feb 1993

Last Updated on STN: 27 Feb 1993

AB The lithiation of different functionalized chloroarenes (dichlorobenzenes 1 and 3, mono and dichlorophenols 9 and 14, and chloropivalanilides 18) in the presence of a catalytic amount of naphthalene leads to the corresponding functionalized lithioarenes, which react with **electrophiles** to give the expected polyfunctionalized aromatic molecules 2, 4, 10, 19, 21, 22 and 24 is a regioselective manner. In the case of the starting from chlorinated phenols or anilides a **deprotonation** of the functional group is carried out prior to the **lithiation** process; only for 2-chloropivalanilide 18o a **coupling** reaction leading to 2-n-butylpivalanilide is observed when an excess of n-**butyllithium** is used in the **deprotonation** step.

CC Biochemistry methods - General 10050
Biochemistry studies - General 10060
Pharmacology - General 22002

IT Major Concepts
Biochemistry and Molecular Biophysics; Pharmacology

IT Miscellaneous Descriptors
PHARMACEUTICAL RELEVANCE; SYNTHETIC METHOD

L146 ANSWER 104 OF 115 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN

ACCESSION NUMBER: 2006:343709 BIOSIS
DOCUMENT NUMBER: PREV200600342841
TITLE: Synthesis and applications of arginine mimetics.
AUTHOR(S): Smith, Alfred Gordon [Reprint Author]
CORPORATE SOURCE: Univ Delaware, Newark, DE 19717 USA
SOURCE: FASEB Journal, (MAR 6 2006) Vol. 20, No. 4, Part 1, pp. A67.
Meeting Info.: Experimental Biology 2006 Meeting. San Francisco, CA, USA. April 01 -05, 2006. Amer Assoc Anatomists; Amer Physiol Soc; Amer Soc Biochem & Mol Biol; Amer Soc Investigat Pathol; Amer Soc Nutr; Amer Soc Pharmacol & Expt Therapeut.
CODEN: FAJOEC. ISSN: 0892-6638.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 12 Jul 2006
Last Updated on STN: 12 Jul 2006

ED Entered STN: 12 Jul 2006
Last Updated on STN: 12 Jul 2006

AB Protein-protein, protein-RNA, and protein-DNA interactions are broadly mediated through the guanidinium functionality of arginine residues. However, specific recognition by arginine is limited, because the guanidinium functionality is attached to a linear alkyl group. To achieve specific molecular recognition, arginine mimetics are used, which place functional groups adjacent to a guanidinium. In order to specifically target arginine-mediated recognition, we developed convenient syntheses of alpha- guanidino acids, in which the amine of an amino acid is converted into a guanidinium. The alpha-substituted guanidiniums of guanidino acids and the side chain of the amino acid work synergistically toward molecular recognition with greater affinity for the target site. We have designed arginine mimetics for specific and high affinity molecular recognition by **coupling** protected guanidino acids to alcohol and amine nucleophiles. Protected guanidino acids of Gly, Phe, Val, and Leu were readily synthesized from methyl esters of alpha-amino acids by guanylation of the amine with bis-boc-thiourea and Mukaiyama's reagent. Protected guanidino acids, with a free carboxylic acid for **coupling** to

nucleophiles, were generated by saponification of the methyl ester using LiOH. Arginine mimetics were synthesized by **coupling** protected guanidino acids to hydroxyl and amino groups to generate complex alpha-substituted guanidiniums. Molecules containing alpha-guanidino acids were applied to specific protein and RNA recognition.
CC General biology - Symposia, transactions and proceedings 00520
Biochemistry studies - General 10060
Biochemistry studies - Nucleic acids, purines and pyrimidines 10062
IT Major Concepts
Biochemistry and Molecular Biophysics
IT Chemicals & Biochemicals
methyl esters; RNA; alcohol; guanidinium; alkyl; protein-protein interactions; alpha-amino acids; amine nucleophiles; lithium hydroxide; protein-DNA interactions; protein-RNA interactions; alpha-guanidino acids; bis-boc-thiourea; arginine mimetics; Mukaiyama's reagent
IT Miscellaneous Descriptors
molecular recognition
ORGN Classifier
Organisms 00500
Super Taxa
Organisms
Organism Name
organism (common)
Taxa Notes
Organisms
RN 64-17-5 (alcohol)
25215-10-5 (guanidinium)
1310-65-2 (lithium hydroxide)

L146 ANSWER 105 OF 115 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2005:561237 BIOSIS
DOCUMENT NUMBER: PREV200510348397
TITLE: Scope and limitations of the catalytic asymmetric rearrangement of epoxides to allylic alcohols using chiral lithium amide bases/**lithiated** imidazoles.
AUTHOR(S): Oxenford, Sally J.; Wright, Jonathan M.; O'Brien, Peter [Reprint Author]; Panday, Narendra; Shipton, Mark R.
CORPORATE SOURCE: Univ York, Dept Chem, York YO10 5DD, N Yorkshire, UK paobl@york.ac.uk
SOURCE: Tetrahedron Letters, (NOV 28 2005) Vol. 46, No. 48, pp. 8315-8318.
CODEN: TELEAY. ISSN: 0040-4039.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 7 Dec 2005
Last Updated on STN: 7 Dec 2005
ED Entered STN: 7 Dec 2005
Last Updated on STN: 7 Dec 2005
AB The catalytic asymmetric rearrangement of functionalised cyclohexene and cyclopentene oxides has been studied using sub-stoichiometric amounts of a chiral lithium amide in combination with a stoichiornetric amount of three different **lithiated** imidazoles. I-Methylimidazole that had been **lithiated** at the C-2 aryl position gave the highest enantioselectivity (82% ee). With 1,2-dimethylimidazole that had been **lithiated** at the C-2 methyl group, epoxide ring opening occurred as an unexpected and competing process. Ultimately, ring opening was suppressed using a more sterically hindered imidazole. In all catalytic examples, a racemic background reaction (presumably due to rearrangement by the **lithiated** imidazoles) was observed. (c) 2005 Elsevier

CC Pathology - Therapy 12512
Pharmacology - General 22002
IT Major Concepts
Pharmaceuticals (Pharmacology)
IT Chemicals & Biochemicals
cyclohexene; 1-methylimidazole; cyclopentene oxide; lithium amide: asymmetric **deprotonation**; 1,2-dimethylimidazole
RN 110-83-8 (cyclohexene)
616-47-7 (1-methylimidazole)
285-67-6 (cyclopentene oxide)
7782-89-0 (lithium amide)

L146 ANSWER 106 OF 115 BIOSIS on STN
ACCESSION NUMBER: 2004:304222 BIOSIS
DOCUMENT NUMBER: PREV200400306859
TITLE: Asymmetric synthesis of axially chiral benzamides and anilides utilizing planar chiral arene chromium complexes.
AUTHOR(S): Koide, Hiroshige; Hata, Takeshi; Yoshihara, Kohei; Kamikawa, Ken; Uemura, Motokazu [Reprint Author]
CORPORATE SOURCE: Fac Integrated Arts and SciDept Chem, Univ Osaka Prefecture, Sakai, Osaka, 5998531, Japan
uemura@ms.cias.osakafu-u.ac.jp
SOURCE: Tetrahedron, (May 10 2004) Vol. 60, No. 20, pp. 4527-4541. print.
ISSN: 0040-4020 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 7 Jul 2004
Last Updated on STN: 7 Jul 2004
ED Entered STN: 7 Jul 2004
Last Updated on STN: 7 Jul 2004
AB Optically active axially chiral 2,6-disubstituted benzamides and anilides were stereoselectively prepared by utilizing planar chiral (arene)chromium complexes. Nucleophilic addition to enantiomerically pure planar chiral tricarbonyl(N,N-diethyl-2-methyl-6-formyl- (or 6-acyl)benzamide)chromium complex gave axially chiral 2-methyl-6-substituted N,N-diethyl benzamide chromium complexes with high selectivity. An alternative method for the preparation of axial chiral benzamides or anilides is an enantiotopic **lithiation** at the benzylic methyl of prochiral tricarbonylchromium complexes of N,N-diethyl-2,6-dimethylbenzamide and N-methyl-N-acyl-2,6-dimethylaniline with a chiral lithium amide followed by **electrophilic** substitution. The resulting axially chiral chromium-complexed benzamides and anilides were oxidized in air to give chromium-free axially chiral benzamides and anilides in enantiomerically enriched form without axial bond rotation at room temperature. Copyright 2004 Elsevier Ltd. All rights reserved.
CC Biochemistry studies - General 10060
IT Major Concepts
Biochemistry and Molecular Biophysics; Methods and Techniques
IT Chemicals & Biochemicals
(tricarbonyl(N,N-diethyl-2-methyl-6-acyl)benzamide)chromium complex: enantiomerically pure, planar chiral; (tricarbonyl(N,N-diethyl-2-methyl-6-formyl-benzamide)chromium complex: enantiomerically pure, planar chiral; 2-methyl-6-substituted N,N-diethyl benzamide chromium complexes: axially chiral; N,N-diethyl-2,6-dimethylbenzamide prochiral tricarbonylchromium complexes; N-methyl-N-acyl-2,6-dimethylaniline [prochiral tricarbonylchromium complexes]; axially chiral 2,6-disubstituted benzamides: asymmetric synthesis, optically active;

axially chiral anilides: asymmetric synthesis; lithium amide: chiral; planar chiral arene chromium complexes
IT Methods & Equipment
electrophilic substitution: laboratory techniques; enantiotopic **lithiation**: laboratory techniques; nucleophilic addition: laboratory techniques
IT Miscellaneous Descriptors
room temperature; selectivity
RN 55-21-0D (axially chiral 2,6-disubstituted benzamides)
7782-89-0 (lithium amide)

L146 ANSWER 107 OF 115 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2004:226373 BIOSIS
DOCUMENT NUMBER: PREV200400226791
TITLE: Asymmetric reactions based on activation and structure control of molecule: Asymmetric reaction of **lithiated** nucleophiles.
AUTHOR(S): Tomioka, Kiyoshi [Reprint Author]
CORPORATE SOURCE: Graduate School of Pharmaceutical Sciences, Kyoto University, Yoshida, Sakyo-ku, Kyoto, 606-8501, Japan tomioka@pharm.kyoto-u.ac.jp
SOURCE: Yakugaku Zasshi, (February 2004) Vol. 124, No. 2, pp. 43-53. print.
ISSN: 0031-6903 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: Japanese
ENTRY DATE: Entered STN: 21 Apr 2004
Last Updated on STN: 21 Apr 2004
ED Entered STN: 21 Apr 2004
Last Updated on STN: 21 Apr 2004
AB The methodology we developed relies on an external chiral coordinating reagent that forms a deaggregated chelate complex with organolithium reagents. Under the positive control of a chiral dimethyl ether of stilbenediol 4, an asymmetric conjugate addition reaction of organolithium reagents with unsaturated imines and esters proceeded successfully to yield the corresponding addition products with reasonably high stereoselectivity. The sense of stereochemistry is predictable based on a coordination model. The methodology has been extended to a catalytic asymmetric 1,2-addition reaction of organolithium reagents with imines. An enantiotopic group differentiating the opening of cyclohexene oxide with organolithium was also mediated by a chiral ligand. The asymmetric Horner-Wadsworth-Emmons reaction of phosphonates and Peterson reaction of alpha-silylester with 4-substituted cyclohexanone were another successful extension of the methodology. A three-component reagent of lithium ester enolate, lithium amide, and chiral diether reacts with imines to afford beta-lactam with reasonably high enantioselectivity. Tridentate aminoether ligands were also shown to affect the catalytic asymmetric addition of lithium ester enoaltes to imines, giving, beta-lactams with high enantioselectivity. Asymmetric conjugate addition of lithium amide to enoates was mediated by a chiral diether ligand to give the beta-aminoester with high yield and enatioselectivity. The methodology has been successfully applied to an asymmetric synthesis of biologically potent compounds. Dihydrexidine, a promising anti-Parkinsonism candidate, and salsolidine, a representative isoquinoline alkaloid, have been synthesized using asymmetric addition reactions of organolithium reagents as the key steps.
CC Biochemistry studies - General 10060
IT Major Concepts
Biochemistry and Molecular Biophysics; Methods and Techniques

IT Chemicals & Biochemicals
4-substituted cyclohexanone; alpha-silylester; beta-lactam; chiral diether; cyclohexene oxide; **lithiated** nucleophiles; lithium amide; lithium ester enolate; organolithium reagents; phosphonates; stilbenediol; tridentate aminoether ligands
IT Methods & Equipment
Peterson reaction: laboratory techniques; addition reaction: laboratory techniques; asymmetric Horner-Wadsworth-Emmons reaction: laboratory techniques
RN 108-94-1D (4-substituted cyclohexanone)
286-20-4 (cyclohexene oxide)
7782-89-0 (lithium amide)
15477-76-6 (phosphonates)
29718-22-7 (stilbenediol)

L146 ANSWER 108 OF 115 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1991:337303 BIOSIS
DOCUMENT NUMBER: PREV199192036678; BA92:36678
TITLE: AN ENANTIOSELECTIVE **DEPROTONATION** ROUTE TO A VERSATILE INTERMEDIATE FOR C NUCLEOSIDE SYNTHESIS.
AUTHOR(S): COX P J [Reprint author]; SIMPKINS N S
CORPORATE SOURCE: DEP CHEM, UNIV NOTTINGHAM, UNIVERSITY PARK, NOTTINGHAM NG7 2RD, UK
SOURCE: Synlett, (1991) No. 5, pp. 321-323.
CODEN: SYNLES. ISSN: 0936-5214.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 31 Jul 1991
Last Updated on STN: 11 Sep 1991
ED Entered STN: 31 Jul 1991
Last Updated on STN: 11 Sep 1991
AB The asymmetric transformation of ketone 1 (exo-cis-6,7-isopropylidenedioxy-8-oxabicyclo[3.2.1]octan-3-one) into optically active silyl enol ether 2 (exo-cis-6,7-isopropylidenedioxy-3-trimethylsiloxy-8-oxabicyclo[3.2.1]oct-2-ene) in up to 85% ee was achieved using the homochiral lithium amide base 6 [lithium (R,R)-bis(1-phenylethyl)amide]. Conversion of 2 into a known key intermediate 3 (methyl 2,3-O-isopropylidene-β-ribofuranosyl-acetate) for C-nucleoside synthesis was possible in a highly efficient two-step sequence.
CC Biochemistry methods - Nucleic acids, purines and pyrimidines 10052
Biochemistry studies - General 10060
Biochemistry studies - Nucleic acids, purines and pyrimidines 10062
Biochemistry studies - Minerals 10069
Biophysics - Molecular properties and macromolecules 10506
IT Major Concepts
Biochemistry and Molecular Biophysics
IT Miscellaneous Descriptors
KETONE SILYL ENOL ETHER LITHIUM AMIDE BASE
RN 13765-44-1 (SILYL)
7782-89-0 (LITHIUM AMIDE)

L146 ANSWER 109 OF 115 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1991:234588 BIOSIS
DOCUMENT NUMBER: PREV199140108753; BR40:108753
TITLE: ASYMMETRIC SYNTHESIS USING HOMOCHIRAL LITHIUM AMIDE BASES.
AUTHOR(S): COX P J [Reprint author]; SIMPKINS N S
CORPORATE SOURCE: DEP CHEM, UNIV NOTTINGHAM, UNIVERSITY PARK, NOTTINGHAM NG7

2RD, UK
SOURCE: Tetrahedron Asymmetry, (1991) Vol. 2, No. 1, pp. 1-26.
CODEN: TASYE3. ISSN: 0957-4166.
DOCUMENT TYPE: Article
FILE SEGMENT: BR
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 21 May 1991
Last Updated on STN: 16 Jul 1991
ED Entered STN: 21 May 1991
Last Updated on STN: 16 Jul 1991
CC Biochemistry methods - General 10050
Biochemistry methods - Minerals 10059
Biochemistry studies - General 10060
Biochemistry studies - Minerals 10069
IT Major Concepts
Biochemistry and Molecular Biophysics
IT Miscellaneous Descriptors
REVIEW **DEPROTONATION** CHIRAL AUXILIARIES
RN **7782-89-0** (LITHIUM AMIDE)

L146 ANSWER 110 OF 115 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1986:187307 BIOSIS
DOCUMENT NUMBER: PREV198630099179; BR30:99179
TITLE: ENANTIOSELECTIVE **DEPROTONATION** BY CHIRAL LITHIUM AMIDE BASES ASYMMETRIC SYNTHESIS OF TRIMETHYLSILYL-ENOL ETHERS FROM 4 ALKYLCYCLOHEXANONES.
AUTHOR(S): SHIRAI R [Reprint author]; TANAKA M; KOGA K
CORPORATE SOURCE: FACULTY OF PHARMACEUTICAL SCIENCES, UNIVERSITY OF TOKYO, HONGO, BUNKYO-KU, TOKYO 113, JAPAN
SOURCE: Journal of the American Chemical Society, (1986) Vol. 108, No. 3, pp. 543-545.
CODEN: JACSAT. ISSN: 0002-7863.
DOCUMENT TYPE: Article
FILE SEGMENT: BR
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 22 May 1986
Last Updated on STN: 22 May 1986
ED Entered STN: 22 May 1986
Last Updated on STN: 22 May 1986
CC Biochemistry methods - Minerals 10059
Biochemistry studies - Minerals 10069
Biophysics - Methods and techniques 10504
Biophysics - Molecular properties and macromolecules 10506
IT Major Concepts
Biochemistry and Molecular Biophysics
IT Miscellaneous Descriptors
COLUMN CHROMATOGRAPHY
RN **7782-89-0** (LITHIUM AMIDE)

L146 ANSWER 111 OF 115 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1980:219176 BIOSIS
DOCUMENT NUMBER: PREV198070011672; BA70:11672
TITLE: NEW METHODOLOGY FOR THE INTRODUCTION OF SULFUR INTO ORGANIC MOLECULES SYNTHESIS OF ANHYDROUS LITHIUM SULFIDE LITHIUM DI SULFIDE AND LITHIUM ORGANO DI SULFIDE SPECIES BY LITHIUM TRI ETHYL BOROHYDRIDE REDUCTION OF ELEMENTAL SULFUR AND DI SULFIDES.
AUTHOR(S): GLADYSZ J A [Reprint author]; WONG V K; JICK B S

CORPORATE SOURCE: DEP CHEM, UNIV CALIF, LOS ANGELES, CALIF 90024, USA
SOURCE: Tetrahedron, (1979) Vol. 35, No. 20, pp. 2329-2336.
CODEN: TETRAB. ISSN: 0040-4020.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH

AB Anhydrous THF [tetrahydrofuran] solutions of Li2S or Li2S2 (or chemically equivalent species) are rapidly and quantitatively formed by the reaction of common yellow S with appropriate stoichiometries of commercially available LiEt3BH [lithium triethylborohydride]. Only volatile by-products H2 and Et3B [ethylboride] are produced; but the Et3B probably associates with the anionic S species generated. Subsequent reaction with **electrophiles** (alkylating agents or acylating agents) affords sulfide or disulfide derivatives in high yields. Disulfides are cleaved to lithium mercaptides by LiEt3BH. Subsequent addition of **electrophiles** affords unsymmetrical sulfides. Trisulfides and tetrasulfides can also be prepared by LiEt3BH reduction of S8, but only in low yield.

CC Comparative biochemistry 10010
Biochemistry methods - General 10050
Biochemistry methods - Minerals 10059
Biochemistry studies - General 10060
Biochemistry studies - Minerals 10069
Biophysics - Methods and techniques 10504
Biophysics - Molecular properties and macromolecules 10506
Movement 12100
Pharmacology - General 22002

IT Major Concepts
Biochemistry and Molecular Biophysics; Pharmacology

RN 7704-34-9 (SULFUR)
51148-09-5 (LITHIUM DISULFIDE)
7439-93-2 (LITHIUM)
22560-16-3 (LITHIUM TRIETHYLBOROHYDRIDE)
16734-12-6 (DISULFIDES)

L146 ANSWER 112 OF 115 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 1995:721713 SCISEARCH
THE GENUINE ARTICLE: RZ313
TITLE: HYDROCARBON-BRIDGED COMPLEXES .33. SYNTHESIS OF DINUCLEAR HYDROCARBON-BRIDGED COMPLEXES BY OXIDATION OF FISCHER CARBENE ANIONS AND FERROCENE ENOLATES AND THEIR REACTION
AUTHOR: GEISBAUER A (Reprint); MIHAN S; BECK W
CORPORATE SOURCE: UNIV MUNICH, INST ANORGAN CHEM, D-80333 MUNICH, GERMANY
COUNTRY OF AUTHOR: GERMANY
SOURCE: JOURNAL OF ORGANOMETALLIC CHEMISTRY, (**4 OCT 1995**
) Vol. 501, No. 1-2, pp. 61-66.
ISSN: 0022-328X.
PUBLISHER: ELSEVIER SCIENCE SA LAUSANNE, PO BOX 564, 1001 LAUSANNE 1, SWITZERLAND.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: PHYS
LANGUAGE: German
REFERENCE COUNT: 41
ENTRY DATE: Entered STN: 1995
Last Updated on STN: 1995
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

ED Entered STN: 1995
Last Updated on STN: 1995

AB Oxidative **coupling** of [(OC)(5)Cr=C(OCH3)CH2]**Li**--(+)

and [FcCOCH(2)]K--(+) with AgBF4 gives the dinuclear neutral complexes (OC)(5)Cr=C(OME)CH2CH2C(OMe)=Cr(CO)(5) (1) and FcCOCH(2)CH(2)COFc (2) (Fc = ferrocenyl) in good yield. 1 was characterized by X-ray diffraction. Double **deprotonation** of 1 and 2 with Bu(II)Li Or KH, respectively, affords dianionic species 3 and 4 which are oxidized to the deeply colored conjugated complexes (OC)(5)Cr=C(OCH3)CH=CHC(OCH3)=Cr(CO)(3)(5) and FcCOCH=CHCOFc (6). Addition of the dianion [(OC)(5)Cr=C(OCH3)CHCHC(OCH3)=Cr(CO)(5)](2-)(Li+)(2) to the cationic **electrophiles** [Fe(CO)(3)(eta(5)-C6H7)](+)[BF4](-) and [Re(CO)(5)(eta(2)-C2H4)](+)[BF4](-) forms tetranuclear complexes (7, 8) as diastereoisomers. [FcCOCHCHCOFc](2-)(K+)(2) reacts with[Re(CO)(5)(eta(2)-C2H4)](+)[BF4](-) to give the trinuclear complex FcCOCH(2)CH[CH2CH2Re(CO)(5)]COFc (9).

CC CHEMISTRY, INORGANIC & NUCLEAR; CHEMISTRY, ORGANIC

ST Author Keywords: CHROMIUM; RHENIUM; BRIDGING HYDROCARBON LIGANDS; CRYSTAL STRUCTURE

STP KeyWords Plus (R): TRANSITION-METAL COMPLEXES; CARBON

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

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ACCESSION NUMBER: 1998:10643 DISSABS Order Number: AAR9810694

TITLE: STUDIES ON THE ENANTIOSELECTIVE **DEPROTONATION** OF PHOSPHINE DERIVATIVES WITH ALKYLLITHIUM-(-)-SPARTEINE COMPLEXES

AUTHOR: MUCI, ALEXANDER RAMON [PH.D.]

CORPORATE SOURCE: HARVARD UNIVERSITY (0084)

SOURCE: Dissertation Abstracts International, (**1997**) Vol. 58, No. 9B, p. 4810. Order No.: AAR9810694. 159 pages.

DOCUMENT TYPE: Dissertation

FILE SEGMENT: DAI

LANGUAGE: English

AB I. Asymmetric Synthesis of P-Chiral Diphosphines via Enantioselective **Deprotonation** with **Alkyllithium**-($-$)-Sparteine Complexes. A method for the synthesis of enantiomerically pure P-chiral diphosphines utilizing an enantioselective **deprotonation** -oxidative **coupling** strategy is described. Dimethyl arylphosphine sulfides 15 (X = S) were **deprotonated** with moderate to high enantioselectivities using the n-BuLi-($-$)-sparteine complex (eq 1). Metalation of the analogous phosphine-boranes 16 (X = BH$\sb3$) by s-BuLi-($-$)-sparteine proceeded with higher enantioselectivities. Oxidative coupling of the resulting anions with Cu(II) afforded the (S,S)-bis(phosphine-boranes) 25 along with minor amounts of the meso products 26 in moderate to good yield (eq 2). The resulting C$\sb2$-symmetric (S,S)-bis(phosphine boranes) 25 were obtained in high enantiomeric purity ($>$99% ee) after crystallization. Removal of the borane protecting group was effected by treatment with diethylamine to afford the derived diphosphines in high yield.*

II. Enantioselective **Deprotonation** of Cyclic Phosphine Derivatives with Alkyllithium-($-$)-Sparteine Complexes. Methodology is described where phosphorus-containing heterocycles are enantioselectively metalated with alkyllithium-($-$)-sparteine complexes. Although phospholane sulfide 10b underwent **deprotonation** in modest enantioselectivity (41-56% ee, eq 3), the analogous phosphorinane derivative 12b was metalated in 99% ee with n-BuLi. Several **electrophiles** were shown to efficiently trap the lithiated phosphacycle. Absolute and relative stereochemistry of 14b was determined by X-ray crystallography of a derived bis(phosphine)rhodium(I) complex. Only one of the two possible diastereomers was observed; the stereochemical outcome is consistent with approach of the

electrophile over the sterically subordinate sulfur.*
III. Kinetic Resolution of Racemic Phosphine Derivatives via Asymmetric **Deprotonation** with Alkyllithium-($-$)-Sparteine Complexes. The kinetic resolution of racemic phosphine-boranes and sulfides using alkyllithium-($-$)-sparteine complexes was attempted. Several phosphine derivatives were prepared and subjected to reaction with 0.50 equiv of the chiral base (eq 4). Unfortunately, low relative rates of reaction of the two enantiomers (S values) were observed.* ftn*Please refer to the dissertation for diagrams.
CC 0490 CHEMISTRY, ORGANIC

L146 ANSWER 114 OF 115 DISSABS COPYRIGHT (C) 2006 ProQuest Information and Learning Company; All Rights Reserved on STN
ACCESSION NUMBER: 97:8291 DISSABS Order Number: AAR9702683
TITLE: ENANTIOSELECTIVE LATERAL LITHIATION-SUBSTITUTION REACTIONS USING BENZAMIDE DIRECTING GROUPS
AUTHOR: THAYUMANAVAN, SANKARAN [PH.D.]; BEAK, PETER [advisor]
CORPORATE SOURCE: UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN (0090)
SOURCE: Dissertation Abstracts International, (**1996**) Vol. 57, No. 8B, p. 5064. Order No.: AAR9702683. 151 pages.
DOCUMENT TYPE: Dissertation
FILE SEGMENT: DAI
LANGUAGE: English
ENTRY DATE: Entered STN: 19970102
Last Updated on STN: 19970102
ED Entered STN: 19970102
Last Updated on STN: 19970102
AB Reactions involving **organolithium** reagents under the influence of the chiral ligand to affect the enantioselective replacement of a carbon-proton **bond** with a carbon-**carbon** bond or a **carbon-heteroatom** bond are described.
Highly enantioenriched substitution products are obtained when N,N-diisopropyl-o-ethylbenzamide is treated with sec-butyllithium/($-$)-sparteine followed by the reaction with **electrophiles.** When the **electrophilic** substitution is carried out with alkyl chlorides as **electrophiles**, the products are obtained with 68-92% ee in moderate to high yields. When alkyl tosylate is used as the **electrophile**, opposite enantiomer of the products are obtained with 78-97% ee in low to high yields.
The enantioselectivity of the reaction can be achieved in one of the three steps in the reaction: the **deprotonation** step, the complexation step, or the substitution step. Tin-lithium exchange experiments of enantioenriched stannyl substrate in the presence and absence of ($-$)-sparteine suggests that the enantioselectivity is achieved in the substitution step. **Deprotonation** of racemic N,N-diisopropyl-o-(1$\sp\prime$-deutereo)ethylbenzamide using sec-butyllithium/($-$)-sparteine suggests that the initial **deprotonation** reaction proceeds enantioselectively to afford enantioenriched organolithium intermediate which racemizes under the reaction conditions and the enantioselectivity of the product is determined in the substitution step.
Investigation of the enantioselectivity of the products with **electrophiles** with a variety of leaving groups suggested that **electrophiles** with fast and/or non-coordinating eletrophiles react with (R)-N,N-(diisopropyl-o-(1$\sp\prime$-lithio)ethylbenzamide with inversion of configuration to afford enantioenriched products. Slow and coordinating **electrophiles** react with (R)-N,N-diisopropyl-o-(1$\sp\prime$-lithio)ethylbenzamide with retention of configuration to afford products with the opposite enantiomer enriched.
Effect of reaction conditions such as solvent, temperature, directing

groups, substrate structure, and structure of the chiral ligands are also studied.
CC 0490 CHEMISTRY, ORGANIC

L146 ANSWER 115 OF 115 DISSABS COPYRIGHT (C) 2006 ProQuest Information and Learning Company; All Rights Reserved on STN
ACCESSION NUMBER: 80:29376 DISSABS Order Number: AAR0534605 (not available for sale by UMI)
TITLE: METALATED ALPHA,BETA -UNSATURATED AMIDES IN ORGANIC SYNTHESIS. APPLICATION TO THE SYNTHESIS OF 1-ARYLTETRALIN LIGNANS
AUTHOR: MPANGO, GEORGE BERNARD WILL [PH.D.]
CORPORATE SOURCE: UNIVERSITY OF WATERLOO (CANADA) (1141)
SOURCE: Dissertation Abstracts International, (**1980**) Vol. 41, No. 12B, p. 4525. Order No.: AAR0534605 (not available for sale by UMI).
DOCUMENT TYPE: Dissertation
FILE SEGMENT: DAI
LANGUAGE: English
ENTRY DATE: Entered STN: 19921118
Last Updated on STN: 19921118
ED Entered STN: 19921118
Last Updated on STN: 19921118
AB The reactions of carbanion derived unsaturated systems with **electrophiles** are reviewed. The Michael reactions of unsaturated systems including tandem conjugate addition-(alpha)-alkylation are summarized and its use in organic synthesis is exemplified.

Part I. The investigation of **lithiated** (alpha),(beta)-unsaturated amides as potential nucleophiles in condensation reactions is described as a general method for **carbon-carbon bond** formation. **N,N**-Dimethylcyclohexylideneacetamide and N,N-dimethylseneciamide undergo (gamma)-**deprotonation** with **lithium** diisopropylamide (LDA) to give the **lithiated** species (145, p 112). These species are shown to undergo alkylation, and condensation with aldehydes and ketones, respectively, to give (alpha)-alkylated, (beta),(gamma)-unsaturated amides and (delta)-hydroxyalkylated-(alpha),(beta)-unsaturated amides respectively in good to excellent yields. The regioselectivity of these reactions and the stereochemistry of the products is discussed.

Some (alpha)-alkylated-(beta),(gamma)-unsaturated tertiary amides may be further (alpha)-alkylated giving rise to (alpha),(alpha)-dialkylated-(beta),(gamma)-unsaturated amides in good yield. It was shown that N-methyl-(alpha)-(1-methylethenyl)-benzenepropanamide (169, p. 134) could be trilithiated and alkylated at the benzylic position with high selectivity.

Part II. Development of the general methodology of tandem conjugate addition-(alpha)-alkylation of crotonoylpiperidine, N-methylcrotonamide and N,N-dimethylcrotonamide is described. It is demonstrated that these amides undergo exclusive, 1,4-addition reactions. The resulting enolates may be trapped by **electrophiles** such as methyl iodide, D(,2)O, allylic bromides, and aromatic aldehydes to give (alpha)-alkylated or (beta)-hydroxyalkylated saturated amides.

This methodology was applied to the synthesis of Galcatin and iso-Galcatin as follows: The conjugate addition of aryl dithiane anions to N,N-dimethylcrotonamide followed by addition of the appropriate aromatic aldehyde gave a diastereomeric mixture of alcohols in the ratio of 9:1 as determined by NMR and characterization. Treatment of the major isomer with trifluoroacetic acid gave tetralin amide which was successively treated to give Galcatin and iso-Galcatin respectively.
CC 0490 CHEMISTRY, ORGANIC

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=> d que l40
L5              QUE  ABB=ON  PLU=ON  MEUDT, A?/AU
L6              QUE  ABB=ON  PLU=ON  LEHNEMANN, B?/AU
L7              QUE  ABB=ON  PLU=ON  ERBES, M?/AU
L8              QUE  ABB=ON  PLU=ON  FORSTINGER, K?/AU
L9              QUE  ABB=ON  PLU=ON  CLARIANT/PA,CS,SO
L12             QUE  ABB=ON  PLU=ON  DEPROTON? OR (DE(W)PROTON?)
L13             QUE  ABB=ON  PLU=ON  ELECTROPHIL? OR (ELECTRO(W)PHIL?)
L15             QUE  ABB=ON  PLU=ON  "COUPLING REACTION"+PFT,OLD,NT/CT
L18             QUE  ABB=ON  PLU=ON  LITHIATION+PFT,OLD,NT/CT
L19             QUE  ABB=ON  PLU=ON  (CARBON(4A)(N OR O OR S OR P OR NITR
                OGEN OR OXYGEN OR SULFUR OR SULPHUR OR PHOSPHORUS OR HETE
                ROATOM OR (HETERO(W)ATOM)))(7A) (BOND? OR ATTACH? OR LINK
                ?)
L32         1998 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L5 OR L6 OR L7 OR L8 OR L9)
L33           20 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L32 AND (L15 OR L18)
L34            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND L19
L35            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND L12
L36            4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND L13
L37            4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (L34 OR L35 OR L36)
L38              QUE  ABB=ON  PLU=ON  ORGANOLITH? OR (ORGANO(W)LITH?) OR (
                 ORGANIC(W)LITH?)
L39            2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L33 AND L38
L40            4 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L37 OR L39


=> d que l131
L5              QUE  ABB=ON  PLU=ON  MEUDT, A?/AU
L6              QUE  ABB=ON  PLU=ON  LEHNEMANN, B?/AU
L7              QUE  ABB=ON  PLU=ON  ERBES, M?/AU
L8              QUE  ABB=ON  PLU=ON  FORSTINGER, K?/AU
L94             QUE  ABB=ON  PLU=ON  C07F001-02/IPC
L96             QUE  ABB=ON  PLU=ON  (C07B041 OR C07B043 OR C07B045)/IPC
L97             QUE  ABB=ON  PLU=ON  ((N261 OR N262 OR N263)(P)(N341 OR N
                342 OR N343 OR N331 OR N332 OR N333 OR N334 OR N335 OR N3
                52))/M0,M1,M2,M3,M4,M5,M6
L125            6 SEA FILE=WPIX ABB=ON  PLU=ON  (L5 OR L6 OR L7 OR L8) AND L94
L126           13 SEA FILE=WPIX ABB=ON  PLU=ON  (L5 OR L6 OR L7 OR L8) AND L97
L127            8 SEA FILE=WPIX ABB=ON  PLU=ON  (L5 OR L6 OR L7 OR L8) AND L96
L128            2 SEA FILE=WPIX ABB=ON  PLU=ON  L125 AND (L126 OR L127)
L130            7 SEA FILE=WPIX ABB=ON  PLU=ON  L126 AND L127
L131            7 SEA FILE=WPIX ABB=ON  PLU=ON  L128 OR L130


=> d his l141

     (FILE 'MEDLINE, BIOSIS, EMBASE, PASCAL, JICST-EPLUS, JAPIO, CABA,
     LIFESCI, BIOENG, BIOTECHNO, BIOTECHDS, DRUGU, DRUGB, VETU, VETB,
     SCISEARCH, CONFSCI, DISSABS' ENTERED AT 11:06:11 ON 23 AUG 2006)
L141            1 S L139-L140 AND (L12 OR L13 OR L19)

=> d que l141
L5              QUE  ABB=ON  PLU=ON  MEUDT, A?/AU
L6              QUE  ABB=ON  PLU=ON  LEHNEMANN, B?/AU
L7              QUE  ABB=ON  PLU=ON  ERBES, M?/AU
L8              QUE  ABB=ON  PLU=ON  FORSTINGER, K?/AU
L9              QUE  ABB=ON  PLU=ON  CLARIANT/PA,CS,SO
L12             QUE  ABB=ON  PLU=ON  DEPROTON? OR (DE(W)PROTON?)
L13             QUE  ABB=ON  PLU=ON  ELECTROPHIL? OR (ELECTRO(W)PHIL?)
L16             QUE  ABB=ON  PLU=ON  LITHIAT? OR LITHIUMIZ? OR LITHIZE?
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L17             QUE  ABB=ON  PLU=ON  LITHIUM OR LI
L19             QUE  ABB=ON  PLU=ON  (CARBON(4A)(N OR O OR S OR P OR NITR
                OGEN OR OXYGEN OR SULFUR OR SULPHUR OR PHOSPHORUS OR HETE
                ROATOM OR (HETERO(W)ATOM)))(7A) (BOND? OR ATTACH? OR LINK
                ?)
L38             QUE  ABB=ON  PLU=ON  ORGANOLITH? OR (ORGANO(W)LITH?) OR (
                ORGANIC(W)LITH?)
L41             QUE  ABB=ON  PLU=ON  ARYLLITH? OR ALKYLLITH? OR METHYLLIT
                H? OR ETHYLLITH? OR PROPYLLITH? OR BUTYLLITH? OR ((ARYL O
                R ALKYL OR METHYL OR ETHYL OR PROPYL OR BUTYL)(W)(LI OR L
                ITH?))
L138        1521 SEA (L5 OR L6 OR L7 OR L8 OR L9)
L139           1 SEA L138 AND (L16 OR L38 OR L41)
L140          19 SEA L138 AND L17
L141           1 SEA (L139 OR L140) AND (L12 OR L13 OR L19)


=> dup rem l40 l131 l141
FILE 'HCAPLUS' ENTERED AT 11:33:36 ON 23 AUG 2006
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FILE 'JAPIO' ENTERED AT 11:33:36 ON 23 AUG 2006
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PROCESSING COMPLETED FOR L40
PROCESSING COMPLETED FOR L131
PROCESSING COMPLETED FOR L141
L147           10 DUP REM L40 L131 L141 (2 DUPLICATES REMOVED)
                  ANSWERS '1-4' FROM FILE HCAPLUS
                  ANSWERS '5-9' FROM FILE WPIX
                  ANSWER '10' FROM FILE JAPIO

=> file stnguide
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AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 18, 2006 (20060818/UP).

=> d ibib ed ab 1-10
YOU HAVE REQUESTED DATA FROM FILE 'HCAPLUS, WPIX, JAPIO' - CONTINUE? (Y)/N:y



L147 ANSWER 1 OF 10  HCAPLUS  COPYRIGHT 2006 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         2004:198231  HCAPLUS
DOCUMENT NUMBER:          140:253710
TITLE:                    preparation of aryllithium compounds using lithium
                          metal and their reaction with electrophiles.
INVENTOR(S):              Meudt, Andreas; Lehnemann, Bernd;
                          Erbes, Michael; Forstinger, Klaus
PATENT ASSIGNEE(S):       Clariant G.m.b.H., Germany
SOURCE:                   Ger. Offen., 10 pp.
                          CODEN: GWXXBX
```

DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10240262	A1	20040311	DE 2002-10240262	20020831
WO 2004024738	A1	20040325	WO 2003-EP9252	20030821
W: BR, CA, CN, IN, JP, KR, NO, RU, SG, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1537126	A1	20050608	EP 2003-794907	20030821
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2006131762	A1	20060622	US 2005-526237	20050228
PRIORITY APPLN. INFO.:			DE 2002-10240262 A	20020831
			WO 2003-EP9252 W	20030821

OTHER SOURCE(S): CASREACT 140:253710; MARPAT 140:253710
ED Entered STN: 11 Mar 2004
AB Aryllithium compds. [I, II; Q = Li; R1-R4 = H, Me, (substituted) alkyl, alkoxy, alkylamino, (substituted) Ph, etc.; X1-X4 = C, N; adjoining pairs of X1-X4 = O, S, NH, etc.; Z = CF3, OCF3, Cl, F, alkoxy, aryloxy, alkylthio, arylthio, CH2OH, etc.], were prepared by reaction of Ar-Hal [Ar = (substituted) Ph, naphthyl, biphenyl; Hal = F, Cl, Br, iodo] with Li to give Ar-Li and reaction of Ar-Li with I, II; (Q = H; other variables as above). The resulting aryllithium compds. were reacted with **electrophiles** to give I, II (Q = **electrophile** residue; other variables as above). Thus, 4-ClC6H4Me and furfural di-Et acetal were added to a mixture of Li metal and cat. biphenyl in THF at -65° over 1.5 h; after 9 h tri-Me borate was added over 30 min. followed by stirring for another 30 min. and addition of aqueous HCl to give 81.5% 5-formylfuran-2-boronic acid.

L147 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2004:198229 HCAPLUS
DOCUMENT NUMBER: 140:253119
TITLE: Preparation of organic compounds containing **carbon-heteroatom bonds** using **organolithium** reagents prepared in situ.
INVENTOR(S): **Meudt, Andreas; Lehnemann, Bernd; Erbes, Michael; Forstinger, Klaus**
PATENT ASSIGNEE(S): **Clariant** G.m.b.H., Germany
SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10240260	A1	20040311	DE 2002-10240260	20020831
WO 2004024737	A1	20040325	WO 2003-EP9250	20030821
W: BR, CA, CN, IN, JP, KR, NO, RU, SG, US				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR				
EP 1537125	A1	20050608	EP 2003-794905	20030821
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

JP 2005537331	T2	20051208	JP 2004-535121		20030821
US 2005258553	A1	20051124	US 2005-526327		20050228
PRIORITY APPLN. INFO.:			DE 2002-10240260	A	20020831
			WO 2003-EP9250	W	20030821

OTHER SOURCE(S): CASREACT 140:253119; MARPAT 140:253119
ED Entered STN: 11 Mar 2004
AB A process for formation of **carbon-heteroatom bonds** comprises (1) treatment of R-Hal (R = Me, (substituted) alkyl, cycloalkyl, Ph, aryl, heteroaryl; Hal = F, Cl, Br, iodo) with Li metal to give RLi, (2) use of RLi for **deprotonation** of R1X1H or R1R2X2H [X1 = O, S, sp2-hybridized N; X2 = sp3-hybridized N; R1, R2 = H, Me, (substituted) alkyl, alkenyl, alkynyl, acyl, alkoxy, aryloxy, dialkylamino, arylamino, heteroaryl, carboxylate, etc.; R1R2 = atoms to form a ring], and (3) treatment of R1X1Li or R1R2X2Li with a carbon **electrophile**. Thus, Li in THF at -35° was treated with 4-ClC6H4Me followed by stirring for ca. 8 h; 2-furylmethanol was added followed by warming to room temperature, addition of propargyl bromide, and reflux for 2 h to give 93% 2-furylmethyl propargyl ether.

L147 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:198230 HCAPLUS
DOCUMENT NUMBER: 140:253342
TITLE: Preparation of derivatized aromatics using **organolithium** reagents prepared in situ.
INVENTOR(S): **Meudt, Andreas**; **Lehnemann, Bernd**; **Erbes, Michael**; **Forstinger, Klaus**
PATENT ASSIGNEE(S): **Clariant** G.m.b.H., Germany
SOURCE: Ger. Offen., 9 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10240261	A1	20040311	DE 2002-10240261	20020831
WO 2004024663	A1	20040325	WO 2003-EP9251	20030821

W: BR, CA, CN, IN, JP, KR, NO, RU, SG, US
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR

PRIORITY APPLN. INFO.: DE 2002-10240261 A 20020831
OTHER SOURCE(S): CASREACT 140:253342; MARPAT 140:253342
ED Entered STN: 11 Mar 2004
AB Title compds. [I; R1-R5 = H, M, (cyclic) (substituted) alkyl, alkoxy, alkylamino, arylamino, Ph, heteroaryl, alkylthio, arylthio, diarylphosphino, etc.; 2 neighboring R1-R5 = atoms to form a condensed ring; X1-X5 = C, N; Q = **electrophile** residue], were prepared by treatment of Ar-Hal [Ar = (substituted) Ph, pyridyl, naphthyl; Hal = F, Cl, Br, iodo] with Li to give Ar-Li in situ, reaction of the latter with I (Q = Hal; other variables as above) to give I (Q = Li; other variables as above), and treatment of the latter with an **electrophile**. Thus, Li in THF at -35° was treated with 4-ClC6H4Me and cat. biphenyl followed by stirring for 5 h; the mixture was cooled to -70° and treated with 4-BrC6H4CF3. After stirring for 2 h at -50°, Ac2O in THF was added at -30° followed by stirring for 30 min. to give 87.2% 4-trifluoromethylacetophenone.

L147 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:4850 HCAPLUS
DOCUMENT NUMBER: 138:73075
TITLE: Process for the preparation of substituted aromatics via lithiation and **electrophilic** alkylation of haloaromatics
INVENTOR(S): **Meudt, Andreas**; **Erbes, Michael**; **Forstinger, Klaus**
PATENT ASSIGNEE(S): **Clariant** G.m.b.H., Germany
SOURCE: Eur. Pat. Appl., 11 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1270535	A2	20030102	EP 2002-12763	20020608
EP 1270535	A3	20040218		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
DE 10155209	A1	20030109	DE 2001-10155209	20011109
US 2003018192	A1	20030123	US 2002-171444	20020613
US 6657093	B2	20031202		
JP 2003073308	A2	20030312	JP 2002-180218	20020620
US 2004073032	A1	20040415	US 2003-677412	20031002
US 7022857	B2	20060404		

PRIORITY APPLN. INFO.: DE 2001-10129765 A 20010620
DE 2001-10155209 A 20011109
US 2002-171444 A3 20020613
OTHER SOURCE(S): CASREACT 138:73075; MARPAT 138:73075
ED Entered STN: 03 Jan 2003
AB A process for the preparation of compds. I [R1 - R5 = H, (un)substituted alkyl, alkoxy, etc.; R6 = aryl, alkyl] via the lithiation and **electrophilic** alkylation of haloaroms. I [R1 - R5 = H, (un)substituted alkyl, alkoxy, etc.; R6 = Cl, F] is disclosed. For example, a mixture of p-chlorotoluene (1 mol) and acetonitrile (1.1 mol) was added to a suspension of lithium (2.0 mol) in THF (350 mL) at -50°C. After stirring for 7.5 h, the reaction was quenched with water, the pH adjusted to 2.0 and the mixture heated at reflux for 2 h. The reaction was cooled, extracted with petroleum ether and the combined organic layers were distilled to provide acetophenone II in 99% yield. The preparation of approx. 12-specific examples of compds. I are disclosed.

L147 ANSWER 5 OF 10 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-786034 [80] WPIX
DOC. NO. CPI: C2005-241887
TITLE: Preparation of aldehydes, useful as intermediates in organic synthesis, comprises reaction of primary and secondary alcohols with cyclic phosphonic acid anhydrides in the presence of dialkyl-, diaryl- and/or alkyl-aryl sulfonic oxides.
DERWENT CLASS: E19
INVENTOR(S): BOEHM, C; **MEUDT, A**; SCHERER, S
PATENT ASSIGNEE(S): (CLRN) CLARIANT GMBH
COUNTRY COUNT: 110
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2005102978	A1	20051103	(200580)*	GE	16

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT KE LS LT LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

DE 102004020189	A1	20051117	(200580)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2005102978	A1	WO 2005-EP4093	20050418
DE 102004020189	A1	DE 2004-102004020189	20040422

PRIORITY APPLN. INFO: DE 2004-102004020189 20040422
ED 20051213
AB WO2005102978 A UPAB: 20051213
NOVELTY - Preparation of aldehydes comprises reaction of primary alcohols or secondary alcohols with cyclic phosphonic acid anhydrides in the presence of dialkyl-, diaryl- and/or alkyl-aryl sulfonic oxides at -100 to +120 deg. C.

DETAILED DESCRIPTION - Preparation of aldehydes of formula ((R1-CHO) or R1-C(O)-R2)) comprises reaction of primary alcohols of formula (R1CH2-OH) or secondary alcohols of formula (R1-CH(OH)-R2) with cyclic phosphonic acid anhydrides in the presence of dialkyl-, diaryl- and/or alkyl-aryl sulfonic oxides at -100 to +120 deg. C.

R1, R2 = substituted 1-12C alkyl, substituted 3-10C cycloalkyl-, alkenyl- or (hetero)aryl.

USE - The aldehydes are useful as intermediates in various organic synthesis.

ADVANTAGE - The oxidation of primary and secondary alcohols to appropriate aldehydes and/or ketones takes place at very mild reaction conditions and in a simplified process. The process is economical and the formed intermediate exhibits high stability.

Dwg.0/0

L147 ANSWER 6 OF 10 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2005-555480 [56] WPIX
DOC. NO. CPI: C2005-167355
TITLE: Preparation of nitriles and isonitriles, useful as intermediates in organic synthesis by heterocarbonyl reaction, involves dehydration of carboxamide, ammonium carboxylate, formamide or precursors with cyclic phosphonic anhydride.
DERWENT CLASS: E11 E19
INVENTOR(S): **MEUDT, A**; NERDINGER, S; SCHERER, S
PATENT ASSIGNEE(S): (CLRN) CLARIANT GMBH
COUNTRY COUNT: 108
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2005070879	A1	20050804	(200556)*	GE	16

RW: AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IS IT
KE LS LT LU MC MW MZ NA NL OA PL PT RO SD SE SI SK SL SZ TR TZ UG
ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DK
DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM
PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US
UZ VC VN YU ZA ZM ZW
DE 102004003953 A1 20050811 (200556)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2005070879	A1	WO 2005-EP361	20050115
DE 102004003953 A1		DE 2004-102004003953	20040126

PRIORITY APPLN. INFO: DE 2004-102004003953 20040126
ED 20050902
AB WO2005070879 A UPAB: 20050902
NOVELTY - Preparation of nitriles (II) and isonitriles (III) with a (cyclo)alkyl, alkenyl, alkynyl or (hetero)aryl group comprises reacting (a) carboxamides, ammonium carboxylates or carboxylic acids in the presence of ammonia or ammonium salts or (b) formamides or mixtures of amines and formic acid with cyclic phosphonic anhydrides at -30 to +120 deg. C, with elimination of water.

DETAILED DESCRIPTION - Preparation of nitriles R-CN (II) and isonitriles R-NC (III) with a (cyclo)alkyl, alkenyl, alkynyl or (hetero)aryl group comprises reacting (a) carboxamides (RCO-NH2), ammonium carboxylates (RCOO-NH4+) or carboxylic acids in the presence of ammonia or ammonium salts (RCOOH + NH3, RCOOH + NH4+) or (b) formamides H-CO-NHR or mixtures of amines and formic acid with cyclic phosphonic anhydrides (I) at -30 to +120 deg. C, with elimination of water, where:

R = any substituted linear or branched 1-8 C alkyl, 3-10 C cycloalkyl, alkenyl, alkynyl, aryl or heteroaryl group:

USE - Nitriles (II) and isonitriles (III) are widely useful as intermediates in organic synthesis and can be used in an infinite number of heterocarbonyl reactions.

ADVANTAGE - The process allows dehydration of carboxylic acids, ammonium carboxylates and amides to the corresponding nitriles and of formamides to the corresponding isonitriles, has very high chemoselectivity and is economically useful. It avoids epimerization and gives maximum regio- and stereoselectivity. The yields are typically 90-100%, especially over 95% and selectivity 97-100, especially 99-100%.
Dwg.0/0

L147 ANSWER 7 OF 10 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2004-582009 [57] WPIX
DOC. NO. CPI: C2004-212494
TITLE: Production of beta-keto carboxylic acid derivatives, e.g. useful as pharmaceutical, agrochemical or dye intermediates, comprises continuously reacting diketenes with active hydrogen compounds in a microreactor.
DERWENT CLASS: B05 C03 E19
INVENTOR(S): **FORSTINGER, K**; KIM, H; NICKEL, U; UNVERDORBEN, L; WEHLE, D
PATENT ASSIGNEE(S): (CLRN) CLARIANT GMBH; (FORS-I) FORSTINGER K; (KIMH-I) KIM H; (NICK-I) NICKEL U; (UNVE-I) UNVERDORBEN L; (WEHL-I) WEHLE D

COUNTRY COUNT: 31
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 10303581	A1	20040812	(200457)*		9
WO 2004067492	A1	20040812	(200457)	GE	
RW: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LU MC NL PT RO SE SI SK TR					
W: CN JP KR US					
EP 1590315	A1	20051102	(200573)	GE	
R: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR					
JP 2006514079	W	20060427	(200628)		19
US 2006142588	A1	20060629	(200643)		
KR 2005095908	A	20051004	(200648)		
CN 1745056	A	20060308	(200649)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 10303581	A1	DE 2003-10303581	20030130
WO 2004067492	A1	WO 2003-EP14200	20031213
EP 1590315	A1	EP 2003-789268	20031213
		WO 2003-EP14200	20031213
JP 2006514079	W	WO 2003-EP14200	20031213
		JP 2004-567309	20031213
US 2006142588	A1	WO 2003-EP14200	20031213
		US 2005-544076	20050729
KR 2005095908	A	WO 2003-EP14200	20031213
		KR 2005-713908	20050728
CN 1745056	A	CN 2003-80109365	20031213

FILING DETAILS:

PATENT NO	KIND		PATENT NO
EP 1590315	A1	Based on	WO 2004067492
JP 2006514079	W	Based on	WO 2004067492
KR 2005095908	A	Based on	WO 2004067492

PRIORITY APPLN. INFO: DE 2003-10303581 20030130
ED 20040907
AB DE 10303581 A UPAB: 20040907
NOVELTY - Production of beta -keto carboxylic acid derivatives (I) by reacting diketenes (II) with active hydrogen compounds comprises carrying out the reaction continuously in a microreactor.

DETAILED DESCRIPTION - Production of beta -keto carboxylic acid derivatives of formula (I) by reacting diketenes of formula (II) with active hydrogen compounds of formula RXH comprises carrying out the reaction continuously in a microreactor.

X = NR', O or S;

R, R' = H or optionally substituted 1-18C (cyclo)alkyl, (cyclo)alkenyl, aryl or heteroaryl;

R1-R4 = H or optionally substituted 1-18C (cyclo)alkyl, (cyclo)alkenyl, aryl or heteroaryl;

R1+R2, R3+R4 = (CH2)k; and

k = 2-6.

USE - Acetoacetyl esters are useful as intermediates for

pharmaceuticals, dyes and agrochemicals. Acetoacetyl amides are useful as intermediates for pigments and reactive dyes.

ADVANTAGE - The process gives very pure products in good yields and has safety and environmental benefits.

Dwg.0/0

L147 ANSWER 8 OF 10 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-267527 [28] WPIX
DOC. NO. CPI: C2001-081194
TITLE: Production of aromatic amines, comprises reacting aryl halides with an amine in the presence of a palladium phosphacyclobutane complex, useful as intermediates for dyes, fine chemicals, agrochemicals and pharmaceuticals.
DERWENT CLASS: B05 C03 E13 E19
INVENTOR(S): GEISSLER, H; HABER, S; **MEUDT, A**; SCHERER, S; VOLLMUELLER, F
PATENT ASSIGNEE(S): (CLRN) CLARIANT GMBH
COUNTRY COUNT: 27
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 1083163	A2	20010314	(200128)*	GE	9
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
DE 19942961	A1	20010315	(200128)		
JP 2001151732	A	20010605	(200138)		8
US 6353136	B1	20020305	(200224)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
EP 1083163	A2	EP 2000-118912	20000901
DE 19942961	A1	DE 1999-1042961	19990909
JP 2001151732	A	JP 2000-275094	20000911
US 6353136	B1	US 2000-658830	20000908

PRIORITY APPLN. INFO: DE 1999-19942961 19990909
ED 20010522
AB EP 1083163 A UPAB: 20010522

NOVELTY - Production of aromatic amines (I) comprises reacting aryl halides (II) with an amine (III) in the presence of a palladium (Pd) phosphacyclobutane complex (IV) and a base in a solvent at 20-200 deg. C.

DETAILED DESCRIPTION - Production of aromatic amines of formula (I) comprises reacting aryl halides of formula (II) with an amine of formula (III) in the presence of a palladium (Pd) phosphacyclobutane complex of formula (IV) and a base, and optionally an ionic halide, in a solvent at 20-200 deg. C.

n = 1-3;

X = F, Cl or Br;

Ar = phenyl, furyl, pyrrolyl, pyridyl, naphthyl or quinolinyl, all optionally substituted by 1-6 of 1-8C alkyl, 3-8C cycloalkyl, 1-8C alkoxy, 1-8C acyloxy, 6-10C aryloxy, 6-10C aryl, benzyl, F, Cl, Br, OH, NO2, OSO2CF3, CN, COOH, CHO, SO3H, SO2R, NH2, NHA, NAA, NHCOA, N(A)COA, COOA, CONH2, COA, NHCHO, NHCOOA, COPh, COOPh, CH=CHCOOA, CH=CHCOOH, POPh2, POA2 and 5- or 6-membered heteroaryl;

A = 1-8C alkyl;

R = A, 6-10C aryl or benzyl;

R6, R7 = H, 1-12C alkyl, 1-12C hydroxyalkyl, optionally substituted phenyl or 3-8C cycloalkyl; or

NR6R7 = 5- or 6-membered aliphatic or aromatic ring optionally containing 1-2 other heteroatoms selected from N, O and S;

R1a, R2a = H, A', 3-12C cycloalkyl, OA', F, NA'A', COOA', OCOA' or optionally substituted aryl;

A' = 1-4C alkyl; or

R3a, R4a, R5a, R6a = 1-8C alkyl, 3-12C cycloalkyl of optionally substituted aryl;

R1a+R2a or R2a+R3a or R3a+R4a = 4-10C aliphatic ring; or

R5a+R6a = 4- to 9-membered ring; or

R4a+R5a = 2-7C alkylene bridge; and

Y = an (in)organic anion, an alpha , gamma -diketo compound or a 5- or 6-membered N-containing heterocycle.

USE - The process is useful for producing amino-substituted benzene, furan, pyrrole and pyridine derivatives, especially anilines, which are useful as intermediates for dyes, fine chemicals, agrochemicals and pharmaceuticals.

ADVANTAGE - The process gives high yields, e.g. 48-91%.

Dwg.0/0

L147 ANSWER 9 OF 10 WPIX COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 2001-062452 [08] WPIX
DOC. NO. CPI: C2001-017545
TITLE: New palladium and nickel complexes of 2'-hydroxy-biphenyl-2-yl-phosphane compounds useful as catalysts for coupling aryl or alkyl metallate, phenol, phenolate, alcohol, alkoxide, amine or amide with aryl halide or sulfonate.
DERWENT CLASS: A60 E11 E19
INVENTOR(S): HABER, S; **MEUDT, A**; NOERENBERG, A; SCHERER, S; VOLLMUELLER, F
PATENT ASSIGNEE(S): (CLRN) CLARIANT GMBH
COUNTRY COUNT: 25
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
DE 19920847	A1	20001109	(200108)*		13
WO 2000068237	A1	20001116	(200108)	GE	

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: BR CA CN IL JP KR MX

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
DE 19920847	A1	DE 1999-1020847	19990506
WO 2000068237	A1	WO 2000-EP3710	20000426

PRIORITY APPLN. INFO: DE 1999-19920847 19990506
ED 20010207
AB DE 19920847 A UPAB: 20010207

NOVELTY - Complexes of palladium (Pd) or nickel (Ni) and a 2'-hydroxy-biphenyl-2-yl-phosphane compound (I) are new.

DETAILED DESCRIPTION - Complexes of palladium (Pd) or nickel (Ni) and a 2'-hydroxy-biphenyl-2-yl-phosphane compound of formula (I) are new.

R1, R2 = linear or branched 1-8 carbon (C) alkyl, 4-8 C cycloalkyl, 2-12 C alkenyl, 2-12 C alkynyl, a phenyl group (with 0-3 substituents

selected from 1-4 C alkyl, 1-4 C alkoxy, fluorine (F) or trifluoromethyl (CF3)) or heteroaryl; or

R1R2 = a 3-8 C 1, omega -alkendiyl chain;

R3 = hydrogen (H), 1-12 C alkyl, 2-12 C alkenyl, 2-12 C alkynyl, phenyl, naphthyl, heteroaryl, lithium (Li), sodium (Na), potassium (K), chloromagnesium (MgCl), bromomagnesium (MgBr), iodomagnesium (MgI), Mg0.5, chlorozinc (ZnCl), bromozinc (ZnBr), Zn0.5, PO-phenyl2, PO-(1-8 C alkyl)2, PO3-(1-8 C alkyl)2, SO2R, SOR, SiR3, C(=O)R, C(=O)NR2, C(=O)NHR, C(=O)OR; or a polymer matrix linked to the phenolic oxygen (O) atom directly or by an (ar)aliphatic or aromatic bridge;

R = 1-4 C alkyl, CF3, phenyl or tolyl;

R4-11 = H, 1-12 C alkyl, 2-12 C alkenyl, 2-12 C alkynyl, phenyl, OSO2R' or SiR'3; or

one pair of adjacent groups R4-11 = a condensed benzo group with 4 R' substituents; and

R' = H, 1-12 C alkyl or phenyl.

The full definitions are given in the DEFINITIONS (Full Definitions) Field.

An INDEPENDENT CLAIM is also included for the preparation of (I).

USE - The complexes are used as catalysts for C,C-, C,N- and C,O-coupling of aryl metallates, alkyl metallates, phenols, phenolates, alcohols, alkoxides, amines or amides with aryl halides, preferably aryl chlorides, or aryl sulfonates (all claimed) to biaryls, styrenes, phenylacetylenes, anilines, phenol ethers and diaryl ethers that are important intermediates in the chemical industry.

ADVANTAGE - These catalyst systems allow simple and cost-effective C,C-, C,N- and C,O-coupling reaction of chloroaromatics with good yields. They are very effective in Suzuki, Grignard and Stille couplings and couplings of arylsilanes and arylzinc compounds and also show high reaction velocities in Heck reactions of olefins and acetylenes. Even unactivated chloroaromatics can be converted to the desired products with high yields.

Dwg.0/0

L147 ANSWER 10 OF 10 JAPIO (C) 2006 JPO on STN
ACCESSION NUMBER: 2003-073308 JAPIO
TITLE: METHOD FOR PRODUCING SUBSTITUTED AROMATIC COMPOUND
INVENTOR: **MEUDT ANDREAS DR; ERBES MICHAEL; FORSTINGER KLAUS**
PATENT ASSIGNEE(S): **CLARIANT GMBH**
PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 2003073308	A	20030312	Heisei	C07C002-68

APPLICATION INFORMATION
STN FORMAT: JP 2002-180218 20020620
ORIGINAL: JP2002180218 Heisei
PRIORITY APPLN. INFO.: DE 2001-10129765 20010620
PRIORITY APPLN. INFO.: DE 2001-10155209 20011109
SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2003
ED 20030709
AB PROBLEM TO BE SOLVED: To provide a method for efficiently producing an aryl- or alkyl- substituted aromatic compound and heteroaromatic compound in a costwise effective way attaining good yield and high purity. SOLUTION: This method for producing the aryl- or alkyl-substituted aromatic compound and heteroaromatic compound includes to react a chloroaromatic compound or a fluoroaromatic compound with an

electrophilic carbon material and **lithium** metal.

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=> d his ful

     (FILE 'HOME' ENTERED AT 08:51:31 ON 23 AUG 2006)

     FILE 'ZCAPLUS' ENTERED AT 08:51:49 ON 23 AUG 2006
                E US2005-526327/APPS

     FILE 'HCAPLUS' ENTERED AT 08:52:54 ON 23 AUG 2006
L1             1 SEA ABB=ON  PLU=ON  US2005-526327/APPS
                SAVE TEMP L1 KUM327HCAAPP/A

     FILE 'STNGUIDE' ENTERED AT 08:53:13 ON 23 AUG 2006

     FILE 'HCAPLUS' ENTERED AT 08:53:17 ON 23 AUG 2006
                D IBIB ED AB IND

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L2             1 SEA ABB=ON  PLU=ON  US2005-526327/APPS
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                D IALL CODE

     FILE 'STNGUIDE' ENTERED AT 08:56:07 ON 23 AUG 2006

     FILE 'REGISTRY' ENTERED AT 08:57:39 ON 23 AUG 2006

     FILE 'HCAPLUS' ENTERED AT 08:57:43 ON 23 AUG 2006
L3             TRA PLU=ON  L1 1- RN :       23 TERMS

     FILE 'REGISTRY' ENTERED AT 08:57:47 ON 23 AUG 2006
L4            23 SEA ABB=ON  PLU=ON  L3
                SAVE TEMP L4 KUM327REGAPP/A
                D SCAN

     FILE 'STNGUIDE' ENTERED AT 08:58:14 ON 23 AUG 2006

     FILE 'ZCAPLUS' ENTERED AT 09:00:02 ON 23 AUG 2006
L5             QUE ABB=ON  PLU=ON  MEUDT, A?/AU
L6             QUE ABB=ON  PLU=ON  LEHNEMANN, B?/AU
L7             QUE ABB=ON  PLU=ON  ERBES, M?/AU
L8             QUE ABB=ON  PLU=ON  FORSTINGER, K?/AU
L9             QUE ABB=ON  PLU=ON  CLARIANT/PA,CS,SO
L10            QUE ABB=ON  PLU=ON  AY<2004 OR PY<2004 OR PRY<2004 OR MY<2004
               OR REVIEW/DT
L11            QUE ABB=ON  PLU=ON  AY<2004 OR PY<2004 OR PRY<2004
L12            QUE ABB=ON  PLU=ON  DEPROTON? OR (DE(W)PROTON?)
L13            QUE ABB=ON  PLU=ON  ELECTROPHIL? OR (ELECTRO(W)PHIL?)
L14            QUE ABB=ON  PLU=ON  COUPLING
L*** DEL       QUE "COUPLING REACTION"/TI,IT,CC,CT,ST,STP
L15            QUE ABB=ON  PLU=ON  "COUPLING REACTION"+PFT,OLD,NT/CT
L16            QUE ABB=ON  PLU=ON  LITHIAT? OR LITHIUMIZ? OR LITHIZE?
L17            QUE ABB=ON  PLU=ON  LITHIUM OR LI
L18            QUE ABB=ON  PLU=ON  LITHIATION+PFT,OLD,NT/CT
L19            QUE ABB=ON  PLU=ON  (CARBON(4A)(N OR O OR S OR P OR NITROGEN
               OR OXYGEN OR SULFUR OR SULPHUR OR PHOSPHORUS OR HETEROATOM OR
               (HETERO(W)ATOM)))(7A) (BOND? OR ATTACH? OR LINK?)
L20            QUE ABB=ON  PLU=ON  FORM OR FORMED OR FORMING OR FORMS OR
               FORMATION OR GENERAT?
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     FILE 'LREGISTRY' ENTERED AT 09:08:42 ON 23 AUG 2006
L21             STR

     FILE 'REGISTRY' ENTERED AT 09:09:05 ON 23 AUG 2006
L22           50 SEA SSS SAM L21
                 D QUE STAT

     FILE 'STNGUIDE' ENTERED AT 09:10:06 ON 23 AUG 2006

     FILE 'LREGISTRY' ENTERED AT 09:13:49 ON 23 AUG 2006
L23             STR L21

     FILE 'REGISTRY' ENTERED AT 09:15:44 ON 23 AUG 2006
L24           50 SEA SSS SAM L23
                 D QUE STAT
L25         5136 SEA SSS FUL L23
                 SAVE TEMP L25 KUM327LIQ/A

     FILE 'STNGUIDE' ENTERED AT 09:18:11 ON 23 AUG 2006

     FILE 'REGISTRY' ENTERED AT 09:18:38 ON 23 AUG 2006
L26          152 SEA ABB=ON  PLU=ON  L25 AND USPATFULL/LC
L27           38 SEA ABB=ON  PLU=ON  L25 AND USPAT2/LC
L28           81 SEA ABB=ON  PLU=ON  L25 AND TOXCENTER/LC
L29            1 SEA ABB=ON  PLU=ON  L25 AND MEDLINE/LC
L30           11 SEA ABB=ON  PLU=ON  L25 AND BIOSIS/LC
L*** DEL       0 S L25 AND EMBASE/LS
L31            1 SEA ABB=ON  PLU=ON  L25 AND EMBASE/LC

     FILE 'STNGUIDE' ENTERED AT 09:19:58 ON 23 AUG 2006

     FILE 'REGISTRY' ENTERED AT 09:20:43 ON 23 AUG 2006

     FILE 'HCAPLUS' ENTERED AT 09:20:46 ON 23 AUG 2006
L32         1998 SEA ABB=ON  PLU=ON  (L5 OR L6 OR L7 OR L8 OR L9)
L33           20 SEA ABB=ON  PLU=ON  L32 AND (L15 OR L18)
L34            1 SEA ABB=ON  PLU=ON  L33 AND L19
L35            1 SEA ABB=ON  PLU=ON  L33 AND L12
L36            4 SEA ABB=ON  PLU=ON  L33 AND L13
L37            4 SEA ABB=ON  PLU=ON  (L34 OR L35 OR L36)
                 D SCAN

     FILE 'STNGUIDE' ENTERED AT 09:22:05 ON 23 AUG 2006

     FILE 'ZCAPLUS' ENTERED AT 09:22:23 ON 23 AUG 2006
L38             QUE ABB=ON  PLU=ON  ORGANOLITH? OR (ORGANO(W)LITH?) OR
                (ORGANIC(W)LITH?)

     FILE 'HCAPLUS' ENTERED AT 09:22:57 ON 23 AUG 2006
L39            2 SEA ABB=ON  PLU=ON  L33 AND L38
L40            4 SEA ABB=ON  PLU=ON  L37 OR L39
                 D SCAN

     FILE 'STNGUIDE' ENTERED AT 09:23:24 ON 23 AUG 2006

     FILE 'HCAPLUS' ENTERED AT 09:24:41 ON 23 AUG 2006
                 SAVE TEMP L40 KUM327HCAINV/A

     FILE 'STNGUIDE' ENTERED AT 09:24:58 ON 23 AUG 2006
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     FILE 'ZCAPLUS' ENTERED AT 09:25:08 ON 23 AUG 2006
L41             QUE ABB=ON  PLU=ON  ARYLLITH? OR ALKYLLITH? OR METHYLLITH? OR
                ETHYLLITH? OR PROPYLLITH? OR BUTYLLITH? OR ((ARYL OR ALKYL OR
                METHYL OR ETHYL OR PROPYL OR BUTYL)(W)(LI OR LITH?))

     FILE 'HCAPLUS' ENTERED AT 09:26:38 ON 23 AUG 2006
L42             0 SEA ABB=ON  PLU=ON  L1 NOT L40
L43          4767 SEA ABB=ON  PLU=ON  L25 (L) RACT/RL
L44           138 SEA ABB=ON  PLU=ON  L25 (L)(L38 OR L41 OR L16 OR L19)
L45            58 SEA ABB=ON  PLU=ON  L43 AND L44
L46            61 SEA ABB=ON  PLU=ON  L43 AND (L15 OR L18)
L47           187 SEA ABB=ON  PLU=ON  (L44 OR L45 OR L46) AND (L12 OR L13 OR L14
                OR L16 OR L19 OR L20 OR L38 OR L41)
L48           152 SEA ABB=ON  PLU=ON  L47 AND L10
L49            37 SEA ABB=ON  PLU=ON  (L15 OR L18)(L)L19
L50           251 SEA ABB=ON  PLU=ON  (L15 OR L18) (L) (L38 OR L41)
L51            69 SEA ABB=ON  PLU=ON  (L49 OR L50) AND (L12 OR L13)
L52            62 SEA ABB=ON  PLU=ON  L51 AND L10
L53           158 SEA ABB=ON  PLU=ON  (L48 OR L52) AND ORGAN?/SC,SX
L54            25 SEA ABB=ON  PLU=ON  L53 AND L12
L55            51 SEA ABB=ON  PLU=ON  L53 AND L13
L56             7 SEA ABB=ON  PLU=ON  L54 AND L55
                D SCAN TI HIT
L57           155 SEA ABB=ON  PLU=ON  (L48 OR L52) AND ORGANIC/SC,SX
L58            69 SEA ABB=ON  PLU=ON  L54 OR L55
L59             0 SEA ABB=ON  PLU=ON  L1 NOT L58
                SAVE TEMP L58 KUM327HCA1B/AQ KUM327HCA1B/A

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                D SAVED

     FILE 'LREGISTRY' ENTERED AT 09:39:04 ON 23 AUG 2006
L60             STR L23

     FILE 'REGISTRY' ENTERED AT 09:40:09 ON 23 AUG 2006
L61            50 SEA SSS SAM L60
                D QUE STAT
L62          8814 SEA SSS FUL L60
                SAVE TEMP L62 KUM327LIQ2/A

     FILE 'STNGUIDE' ENTERED AT 09:41:26 ON 23 AUG 2006
                D SAVED

     FILE 'REGISTRY' ENTERED AT 09:41:51 ON 23 AUG 2006
L63           181 SEA ABB=ON  PLU=ON  L62 AND USPATFULL/LC
L64            39 SEA ABB=ON  PLU=ON  L62 AND USPAT2/LC
L65             1 SEA ABB=ON  PLU=ON  L62 AND MEDLINE/LC
L66            11 SEA ABB=ON  PLU=ON  L62 AND BIOSIS/LC
L67             1 SEA ABB=ON  PLU=ON  L62 AND EMBASE/LC

     FILE 'HCAPLUS' ENTERED AT 09:43:06 ON 23 AUG 2006
L68          5309 SEA ABB=ON  PLU=ON  L62 (L) (RACT+NT)/RL
L69           376 SEA ABB=ON  PLU=ON  L62 (L)(L14 OR L16 OR L19 OR L38 OR L41)
L70           125 SEA ABB=ON  PLU=ON  L68 AND L69
L71           104 SEA ABB=ON  PLU=ON  L69 AND (L15 OR L18)
L72           144 SEA ABB=ON  PLU=ON  (L70 OR L71) AND L10
L73            14 SEA ABB=ON  PLU=ON  L72 AND (L12 OR L13)
L74             3 SEA ABB=ON  PLU=ON  L73 AND (L14 OR L19)
                D SCAN TI HIT
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L75          11 SEA ABB=ON  PLU=ON  L73 AND ORGANIC/SC,SX
L76          14 SEA ABB=ON  PLU=ON  (L73 OR L74 OR L75)
L77           2 SEA ABB=ON  PLU=ON  L76 AND L12 AND L13
                D SCAN TI HIT
L78          71 SEA ABB=ON  PLU=ON  L58 OR L77
                SAVE TEMP L78 KUM327HCA2B/A

     FILE 'STNGUIDE' ENTERED AT 09:48:03 ON 23 AUG 2006

     FILE 'LREGISTRY' ENTERED AT 09:48:51 ON 23 AUG 2006
                D QUE STAT L62
L79             STR L60

     FILE 'STNGUIDE' ENTERED AT 09:51:21 ON 23 AUG 2006

     FILE 'CASREACT' ENTERED AT 09:51:59 ON 23 AUG 2006
L80          27 SEA SSS SAM L79 (   916 REACTIONS)
                D QUE STAT

     FILE 'STNGUIDE' ENTERED AT 09:52:54 ON 23 AUG 2006

     FILE 'CASREACT' ENTERED AT 09:56:11 ON 23 AUG 2006
L81        7132 SEA ABB=ON  PLU=ON  L62/NPRO

     FILE 'STNGUIDE' ENTERED AT 09:56:26 ON 23 AUG 2006
                D QUE STAT L80

     FILE 'CASREACT' ENTERED AT 09:56:52 ON 23 AUG 2006

     FILE 'STNGUIDE' ENTERED AT 09:57:29 ON 23 AUG 2006

     FILE 'CASREACT' ENTERED AT 09:58:21 ON 23 AUG 2006
L82        7715 SEA ABB=ON  PLU=ON  L62
L83        1756 SEA ABB=ON  PLU=ON  L82 AND (L14 OR L16 OR L19 OR L38 OR L41)
L84        1756 SEA ABB=ON  PLU=ON  L82 AND ((COUPLING/BI,AB) OR (LITHIAT?/BI,A
                B OR LITHIUMIZ?/BI,AB OR LITHIZE?/BI,AB) OR ((CARBON/BI,AB(4A)(
                N/BI,AB OR O/BI,AB OR S/BI,AB OR P/BI,AB OR NITROGEN/BI,AB OR
                OXYGEN/BI,AB OR SULFUR/BI,AB OR SULPHUR/BI,AB OR PHOSPHORUS/BI,
                AB OR HETEROATOM/BI,AB OR (HETERO/BI,AB(W)ATOM/BI,AB)))(7A)
                (BOND?/BI,AB OR ATTACH?/BI,AB OR LINK?/BI,AB)) OR (ORGANOLITH?/
                BI,AB OR (ORGANO/BI,AB(W)LITH?/BI,AB) OR (ORGANIC/BI,AB(W)LITH?
                /BI,AB)) OR (ARYLLITH?/BI,AB OR ALKYLLITH?/BI,AB OR METHYLLITH?
                /BI,AB OR ETHYLLITH?/BI,AB OR PROPYLLITH?/BI,AB OR BUTYLLITH?/B
                I,AB OR ((ARYL/BI,AB OR ALKYL/BI,AB OR METHYL/BI,AB OR
                ETHYL/BI,AB OR PROPYL/BI,AB OR BUTYL/BI,AB)(W)(LI/BI,AB OR
                LITH?/BI,AB))))
L85          94 SEA ABB=ON  PLU=ON  L84 AND (DEPROTON?/BI,AB OR (DE/BI,AB(W)PRO
                TON?/BI,AB))
L86          51 SEA ABB=ON  PLU=ON  L84 AND (ELECTROPHIL?/BI,AB OR (ELECTRO/BI,
                AB(W)PHIL?/BI,AB))
L87           5 SEA ABB=ON  PLU=ON  L85 AND L86
L88         110 SEA ABB=ON  PLU=ON  (L85 OR L86) AND L10
L89          98 SEA ABB=ON  PLU=ON  L88 AND ORGANIC/SC,SX
L90           4 SEA ABB=ON  PLU=ON  L87 AND L88
L*** DEL     98 S L88 AND L89
L91           4 SEA ABB=ON  PLU=ON  L87 AND L89
L92           4 SEA ABB=ON  PLU=ON  (L90 OR L91) AND L10
                D SCAN
                SAVE TEMP L92 KUM327CRX1B/A
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     FILE 'CHEMINFORMRX' ENTERED AT 10:03:05 ON 23 AUG 2006
L93           43 SEA SSS SAM L79 (   304 REACTIONS)

     FILE 'STNGUIDE' ENTERED AT 10:04:06 ON 23 AUG 2006
                D SAVED

     FILE 'ZCAPLUS' ENTERED AT 10:40:34 ON 23 AUG 2006
L94             QUE ABB=ON  PLU=ON  C07F001-02/IPC
L95             QUE ABB=ON  PLU=ON  C07B?/IPC
L96             QUE ABB=ON  PLU=ON  (C07B041 OR C07B043 OR C07B045)/IPC

     FILE 'LWPI' ENTERED AT 10:42:02 ON 23 AUG 2006
L97             QUE ABB=ON  PLU=ON  ((N261 OR N262 OR N263)(P)(N341 OR N342 OR
                N343 OR N331 OR N332 OR N333 OR N334 OR N335 OR N352))/M0,M1,M2
                ,M3,M4,M5,M6

     FILE 'USPATFULL, USPAT2' ENTERED AT 10:43:52 ON 23 AUG 2006
L98          5394 SEA ABB=ON  PLU=ON  L63 OR L64
L99             5 SEA ABB=ON  PLU=ON  L98 AND L18
L100           55 SEA ABB=ON  PLU=ON  L98 AND L16/TI,IT,CC,CT,ST,STP
L101           59 SEA ABB=ON  PLU=ON  L98 AND L14/TI,IT,CC,CT,ST,STP
L102          135 SEA ABB=ON  PLU=ON  L14/TI,IT,CC,CT,ST,STP AND L16/TI,IT,CC,CT,
                ST,STP
L103          234 SEA ABB=ON  PLU=ON  (L99 OR L100 OR L101 OR L102) AND L11
L104          137 SEA ABB=ON  PLU=ON  L103 AND L19/TI,IT,CC,CT,ST,STP,BI,AB
L105           26 SEA ABB=ON  PLU=ON  L103 AND L12/TI,IT,CC,CT,ST,STP,BI,AB
L106           14 SEA ABB=ON  PLU=ON  L103 AND L13/TI,IT,CC,CT,ST,STP,BI,AB
L107            8 SEA ABB=ON  PLU=ON  L104 AND L105 AND L106
                D SCAN
L108            7 SEA ABB=ON  PLU=ON  L103 AND L94
L109           10 SEA ABB=ON  PLU=ON  L103 AND (L95 OR L96)
L110           16 SEA ABB=ON  PLU=ON  (L108 OR L109) AND L11
L111           22 SEA ABB=ON  PLU=ON  L107 OR L110
L112            1 SEA ABB=ON  PLU=ON  L103 AND L96
L113            1 SEA ABB=ON  PLU=ON  L108 AND L112
L114            1 SEA ABB=ON  PLU=ON  L108 AND L109
L115            8 SEA ABB=ON  PLU=ON  L107 OR (L112 OR L113 OR L114)
L116            8 SEA ABB=ON  PLU=ON  L115 AND L11
                SAVE TEMP L116 KUM327USP1B/A

     FILE 'STNGUIDE' ENTERED AT 10:49:38 ON 23 AUG 2006

     FILE 'WPIX' ENTERED AT 10:49:43 ON 23 AUG 2006
                SELECT L2 1- DCRE
L117            0 SEA ABB=ON  PLU=ON  71660-0-0-0/DSCE
L118            1 SEA ABB=ON  PLU=ON  71660-0-0-0/DCSE
                D SCAN
                SELECT L2 1- DCN
L119            1 SEA ABB=ON  PLU=ON  (RADR0W/SDCN OR 0126-86201/SDCN OR
                0126-86202/SDCN OR 0126-86203/SDCN OR 0126-86204/SDCN OR
                0126-86205/SDCN)
                D SCAN
                D QUE STAT L62
L120            0 SEA SSS SAM L60
                D QUE STAT
L121            0 SEA SSS FUL L60
L122           22 SEA ABB=ON  PLU=ON  L97 AND L94
                D TRI 1-5
L123           19 SEA ABB=ON  PLU=ON  L122 AND ((DEPROTON?/BIX OR (DE/BIX(W)PROTO
                N?/BIX)) OR (ELECTROPHIL?/BIX OR (ELECTRO/BIX(W)PHIL?/BIX)) OR
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                (COUPLING/BIX) OR (LITHIUM/BIX OR LI/BIX) OR (LITHIAT?/BIX OR
                LITHIUMIZ?/BIX OR LITHIZE?/BIX) OR ((CARBON/BIX(4A)(N/BIX OR
                O/BIX OR S/BIX OR P/BIX OR NITROGEN/BIX OR OXYGEN/BIX OR
                SULFUR/BIX OR SULPHUR/BIX OR PHOSPHORUS/BIX OR HETEROATOM/BIX
                OR (HETERO/BIX(W)ATOM/BIX)))(7A) (BOND?/BIX OR ATTACH?/BIX OR
                LINK?/BIX)) OR (ORGANOLITH?/BIX OR (ORGANO/BIX(W)LITH?/BIX) OR
                (ORGANIC/BIX(W)LITH?/BIX)) OR (ARYLLITH?/BIX OR ALKYLLITH?/BIX
                OR METHYLLITH?/BIX OR ETHYLLITH?/BIX OR PROPYLLITH?/BIX OR
                BUTYLLITH?/BIX OR ((ARYL/BIX OR ALKYL/BIX OR METHYL/BIX OR
                ETHYL/BIX OR PROPYL/BIX OR BUTYL/BIX)(W)(LI/BIX OR LITH?/BIX)))
                )
L124         22 SEA ABB=ON  PLU=ON  L122 OR L123
                D TRI 1-5
                D IBIB 1-4
                SAVE TEMP L124 KUM327WPI1B/A
L125          6 SEA ABB=ON  PLU=ON  (L5 OR L6 OR L7 OR L8) AND L94
L126         13 SEA ABB=ON  PLU=ON  (L5 OR L6 OR L7 OR L8) AND L97
L127          8 SEA ABB=ON  PLU=ON  (L5 OR L6 OR L7 OR L8) AND L96
L128          2 SEA ABB=ON  PLU=ON  L125 AND (L126 OR L127)
L129          2 SEA ABB=ON  PLU=ON  L125 AND L126
L130          7 SEA ABB=ON  PLU=ON  L126 AND L127
L131          7 SEA ABB=ON  PLU=ON  L128 OR L130
                SAVE TEMP L131 KUM327WPIINV/A
L132          0 SEA ABB=ON  PLU=ON  L2 NOT L131

     FILE 'STNGUIDE' ENTERED AT 11:02:05 ON 23 AUG 2006

     FILE 'MEDLINE, BIOSIS, EMBASE' ENTERED AT 11:02:28 ON 23 AUG 2006
L133        126 SEA ABB=ON  PLU=ON  L65 OR L66 OR L67
L134          2 SEA ABB=ON  PLU=ON  L133 AND (L19 OR L14)
L135          3 SEA ABB=ON  PLU=ON  L133 AND L16
L136          6 SEA ABB=ON  PLU=ON  L133 AND (L12 OR L13)
L137          9 SEA ABB=ON  PLU=ON  (L134 OR L135 OR L136)
                D SCAN
                D QUE
                SAVE TEMP L137 KUM327MULS/A

     FILE 'STNGUIDE' ENTERED AT 11:04:29 ON 23 AUG 2006
                D SAVED

     FILE 'MEDLINE, BIOSIS, EMBASE, PASCAL, JICST-EPLUS, JAPIO, CABA, LIFESCI,
     BIOENG, BIOTECHNO, BIOTECHDS, DRUGU, DRUGB, VETU, VETB, SCISEARCH,
     CONFSCI, DISSABS' ENTERED AT 11:06:11 ON 23 AUG 2006
L138       1521 SEA ABB=ON  PLU=ON  (L5 OR L6 OR L7 OR L8 OR L9)
L139          1 SEA ABB=ON  PLU=ON  L138 AND (L16 OR L38 OR L41)
L140         19 SEA ABB=ON  PLU=ON  L138 AND L17
L141          1 SEA ABB=ON  PLU=ON  (L139 OR L140) AND (L12 OR L13 OR L19)
                D SCAN
                SAVE TEMP L141 KUM327MULINV/A
L142       3180 SEA ABB=ON  PLU=ON  (L17 OR L16 OR L38 OR L41)(20A)(L19 OR
                L14)
L143         49 SEA ABB=ON  PLU=ON  L142 AND L12
L144         13 SEA ABB=ON  PLU=ON  L143 AND L13
                D SCAN
L145          7 SEA ABB=ON  PLU=ON  L144 AND L10
                SAVE TEMP L145 KUM327MUL1B/A
                D SAVED

     FILE 'STNGUIDE' ENTERED AT 11:22:53 ON 23 AUG 2006
                D QUE STAT L25
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                D QUE STAT L62
                D QUE NOS L58
                D QUE NOS L78
                D QUE STAT L80
                D QUE NOS L92
                D QUE STAT L93
                D QUE NOS L116
                D QUE STAT L121
                D QUE L124
                D QUE NOS L137
                D QUE L145

     FILE 'HCAPLUS, CASREACT, USPATFULL, USPAT2, WPIX, MEDLINE, BIOSIS,
     EMBASE, SCISEARCH, DISSABS' ENTERED AT 11:25:37 ON 23 AUG 2006
L146         115 DUP REM L78 L58 L92 L116 L124 L137 L145 (75 DUPLICATES REMOVED)
                     ANSWERS '1-71' FROM FILE HCAPLUS
                     ANSWERS '72-74' FROM FILE CASREACT
                     ANSWERS '75-81' FROM FILE USPATFULL
                     ANSWERS '82-101' FROM FILE WPIX
                     ANSWER '102' FROM FILE MEDLINE
                     ANSWERS '103-111' FROM FILE BIOSIS
                     ANSWER '112' FROM FILE SCISEARCH
                     ANSWERS '113-115' FROM FILE DISSABS

     FILE 'STNGUIDE' ENTERED AT 11:25:47 ON 23 AUG 2006

     FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH,
     DISSABS' ENTERED AT 11:26:22 ON 23 AUG 2006
                D IBIB ED AB HITIND HITSTR

     FILE 'STNGUIDE' ENTERED AT 11:26:24 ON 23 AUG 2006

     FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH,
     DISSABS' ENTERED AT 11:26:45 ON 23 AUG 2006
                D IBIB ED AB HITIND HITSTR 2-71

     FILE 'STNGUIDE' ENTERED AT 11:26:59 ON 23 AUG 2006

     FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH,
     DISSABS' ENTERED AT 11:28:05 ON 23 AUG 2006
                D IBIB ED AB FHIT 72

     FILE 'STNGUIDE' ENTERED AT 11:28:11 ON 23 AUG 2006

     FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH,
     DISSABS' ENTERED AT 11:28:37 ON 23 AUG 2006
                D IBIB AB FHIT 73-74

     FILE 'STNGUIDE' ENTERED AT 11:29:00 ON 23 AUG 2006

     FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH,
     DISSABS' ENTERED AT 11:29:21 ON 23 AUG 2006
                D IBIB AB HITSTR 75-81

     FILE 'STNGUIDE' ENTERED AT 11:29:22 ON 23 AUG 2006

     FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH,
     DISSABS' ENTERED AT 11:30:25 ON 23 AUG 2006
                D IALL ABEQ TECH ABEX 82-101
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FILE 'STNGUIDE' ENTERED AT 11:30:38 ON 23 AUG 2006

FILE 'HCAPLUS, CASREACT, USPATFULL, WPIX, MEDLINE, BIOSIS, SCISEARCH, DISSABS' ENTERED AT 11:32:03 ON 23 AUG 2006
D IBIB ED AB IND 102-115

FILE 'STNGUIDE' ENTERED AT 11:32:07 ON 23 AUG 2006
D QUE L40
D QUE L131
D QUE L141

FILE 'HCAPLUS, WPIX, JAPIO' ENTERED AT 11:33:36 ON 23 AUG 2006
L147 10 DUP REM L40 L131 L141 (2 DUPLICATES REMOVED)
ANSWERS '1-4' FROM FILE HCAPLUS
ANSWERS '5-9' FROM FILE WPIX
ANSWER '10' FROM FILE JAPIO

FILE 'STNGUIDE' ENTERED AT 11:33:45 ON 23 AUG 2006

FILE 'HCAPLUS, WPIX, JAPIO' ENTERED AT 11:33:52 ON 23 AUG 2006
D IBIB ED AB 1-10

FILE 'STNGUIDE' ENTERED AT 11:33:58 ON 23 AUG 2006

FILE HOME

FILE ZCAPLUS

FILE COVERS 1907 - 23 Aug 2006 VOL 145 ISS 9
FILE LAST UPDATED: 22 Aug 2006 (20060822/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE HCAPLUS

FILE COVERS 1907 - 23 Aug 2006 VOL 145 ISS 9

FILE LAST UPDATED: 22 Aug 2006 (20060822/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE STNGUIDE
FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Aug 18, 2006 (20060818/UP).

FILE WPIX
FILE LAST UPDATED: 22 AUG 2006 <20060822/UP>
MOST RECENT DERWENT UPDATE: 200654 <200654/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE, PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf <

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
http://scientific.thomson.com/support/patents/coverage/latestupdates/

>>> PLEASE BE AWARE OF THE NEW IPC REFORM IN 2006, SEE
http://www.stn-international.de/stndatabases/details/ipc_reform.html and
http://scientific.thomson.com/media/scpdf/ipcrdwpi.pdf <<<

>>> FOR FURTHER DETAILS ON THE FORTHCOMING DERWENT WORLD PATENTS INDEX ENHANCEMENTS PLEASE VISIT:
http://www.stn-international.de/stndatabases/details/dwpi_r.html <<<

FILE REGISTRY
Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 21 AUG 2006 HIGHEST RN 903048-34-0
DICTIONARY FILE UPDATES: 21 AUG 2006 HIGHEST RN 903048-34-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

FILE LREGISTRY
LREGISTRY IS A STATIC LEARNING FILE

NEW CAS INFORMATION USE POLICIES, ENTER HELP USAGETERMS FOR DETAILS.

FILE CASREACT
Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available

for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications.

FILE CONTENT:1840 - 20 Aug 2006 VOL 145 ISS 8

New CAS Information Use Policies, enter HELP USAGETERMS for details.

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**********************************************************
*                                                        *
*     CASREACT now has more than 10 million reactions    *
*                                                        *
**********************************************************
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Some CASREACT records are derived from the ZIC/VINITI database (1974-1991) provided by InfoChem, INPI data prior to 1986, and Biotransformations database compiled under the direction of Professor Dr. Klaus Kieslich.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE CHEMINFORMRX
FILE LAST UPDATED: 12 JUN 2006 <20060612/UP>

>>> CAS Registry Numbers are available for
substances prior to 1995 <<<

FILE LWPI
LWPI IS A STATIC LEARNING FILE
>>> PATENT DRAWINGS AVAILABLE FOR DISPLAY <<<

FILE USPATFULL
FILE COVERS 1971 TO PATENT PUBLICATION DATE: 22 Aug 2006 (20060822/PD)
FILE LAST UPDATED: 22 Aug 2006 (20060822/ED)
HIGHEST GRANTED PATENT NUMBER: US7096505
HIGHEST APPLICATION PUBLICATION NUMBER: US2006185050
CA INDEXING IS CURRENT THROUGH 22 Aug 2006 (20060822/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 22 Aug 2006 (20060822/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2006
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2006

FILE USPAT2

FILE COVERS 2001 TO PUBLICATION DATE: 22 Aug 2006 (20060822/PD)
FILE LAST UPDATED: 22 Aug 2006 (20060822/ED)
HIGHEST GRANTED PATENT NUMBER: US2006126039
HIGHEST APPLICATION PUBLICATION NUMBER: US2006185040
CA INDEXING IS CURRENT THROUGH 22 Aug 2006 (20060822/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 22 Aug 2006 (20060822/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Apr 2006
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Apr 2006

FILE MEDLINE
FILE LAST UPDATED: 22 Aug 2006 (20060822/UP). FILE COVERS 1950 TO DATE.

On December 11, 2005, the 2006 MeSH terms were loaded.

The MEDLINE reload for 2006 is now (26 Feb.) available. For details on the 2006 reload, enter HELP RLOAD at an arrow prompt (=>).

See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_med_data_changes.html
http://www.nlm.nih.gov/pubs/techbull/nd05/nd05_2006_MeSH.html

OLDMEDLINE is covered back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2006 vocabulary.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE BIOSIS
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 17 August 2006 (20060817/ED)

FILE EMBASE
FILE COVERS 1974 TO 23 Aug 2006 (20060823/ED)

EMBASE has been reloaded. Enter HELP RLOAD for details.

EMBASE is now updated daily. SDI frequency remains weekly (default) and biweekly.

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE PASCAL
FILE LAST UPDATED: 21 AUG 2006 <20060821/UP>
FILE COVERS 1977 TO DATE.

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION IS AVAILABLE
IN THE BASIC INDEX (/BI) FIELD <<<

FILE JICST-EPLUS
FILE COVERS 1985 TO 22 AUG 2006 (20060822/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED TERM (/CT) THESAURUS RELOAD.

FILE JAPIO
FILE LAST UPDATED: 3 APR 2006 <20060403/UP>
FILE COVERS APRIL 1973 TO DECEMBER 22, 2005

>>> GRAPHIC IMAGES AVAILABLE <<<

>>> NEW IPC8 DATA AND FUNCTIONALITY NOT YET AVAILABLE IN THIS FILE.
USE IPC7 FORMAT FOR SEARCHING THE IPC. WATCH THIS SPACE FOR FURTHER DEVELOPMENTS AND SEE OUR NEWS SECTION FOR FURTHER INFORMATION ABOUT THE IPC REFORM <<<

FILE CABA
FILE COVERS 1973 TO 3 Aug 2006 (20060803/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

The CABA file was reloaded 7 December 2003. Enter HELP RLOAD for details.

FILE LIFESCI
FILE COVERS 1978 TO 16 Aug 2006 (20060816/ED)

FILE BIOENG
FILE LAST UPDATED: 16 AUG 2006 <20060816/UP>
FILE COVERS 1982 TO DATE

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
THE BASIC INDEX <<<

FILE BIOTECHNO
FILE LAST UPDATED: 7 JAN 2004 <20040107/UP>
FILE COVERS 1980 TO 2003.

>>> BIOTECHNO IS NO LONGER BEING UPDATED AS OF 2004 <<<

>>> SIMULTANEOUS LEFT AND RIGHT TRUNCATION AVAILABLE IN
/CT AND BASIC INDEX <<<

FILE BIOTECHDS
FILE LAST UPDATED: 23 AUG 2006 <20060823/UP>
FILE COVERS 1982 TO DATE

>>> USE OF THIS FILE IS LIMITED TO BIOTECH SUBSCRIBERS <<<

FILE DRUGU
FILE LAST UPDATED: 21 AUG 2006 <20060821/UP>
>>> DERWENT DRUG FILE (SUBSCRIBER) <<<

>>> FILE COVERS 1983 TO DATE <<<
>>> THESAURUS AVAILABLE IN /CT <<<

FILE DRUGB
>>> FILE COVERS 1964 TO 1982 - CLOSED FILE <<<

FILE VETU
FILE LAST UPDATED: 02 JAN 2002 <20020102/UP>
FILE COVERS 1983-2001

FILE VETB
FILE LAST UPDATED: 25 SEP 94 <940925/UP>
FILE COVERS 1968-1982

FILE SCISEARCH

FILE COVERS 1974 TO 19 Aug 2006 (20060819/ED)

SCISEARCH has been reloaded, see HELP RLOAD for details.

FILE CONFSCI
FILE COVERS 1973 TO 10 Jul 2006 (20060710/ED)

CSA has resumed updates, see NEWS FILE

FILE DISSABS
FILE COVERS 1861 TO 27 JUL 2006 (20060727/ED)

=>